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Vol. LXXXI. No. 5 NEW YORK AND CHICAGO, JULY 30, 1925 { Per annum, $4.00 { Per Copy, 10 cents

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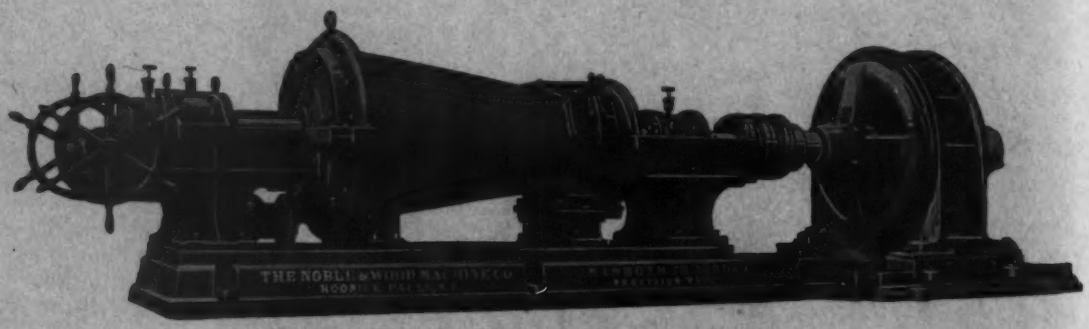

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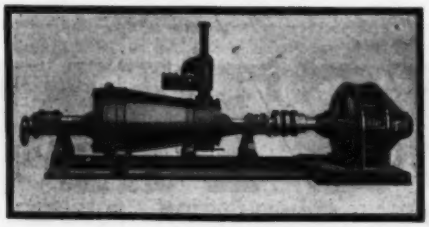

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PAPER TRADE JOURNAL
ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-THIRD YEAR

Published Every Thursday by the
LOCKWOOD TRADE JOURNAL CO., INC.

LESLIE R. PALME' PRESIDENT — GEO. S. MACDONALD VICE-PRESIDENT & TREAS. — F. K. HOPPIE SECRETARY

10 EAST 39TH ST, N.Y. U. S. A.

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From East Coast to West Coast

AUSTIN construction on paper mill projects extends from the Atlantic to the Pacific.

On the East Coast, Austin has under way the Hygrade Corrugated Paper Products Company at Long Island City. This project runs over a half-million dollars and comprises a modern fireproof daylight plant of reinforced concrete construction.

On the West Coast, Austin is building for the Inland Empire Paper Company at Spokane, Wash.

At Toledo, Ohio, Austin is building a two-story steel frame and mill type building, 180 x 540 ft. for the Chase Bag Company in addition to new construction for the same company at Buffalo, N. Y.

A project just completed is that of the Standard Wall Paper Company of Joliet, Ill.

Austin's Nation-wide Organization with branches in 13 industrial centers means that Austin will "handle the whole job" anywhere, building from plans by your engineers, or Austin will design, build and equip your project complete, with full guarantees covering every phase of paper mill construction.

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***Richardson Co.
West Carrollton Parchment Co.
Simplex Paper Corp.
Reg. N. Boxer
Natural Fibre & Ins. Co.
Chillicothe Paper Co.
**Continental Fibre Co.
Arrowhead Mills
Algonquin Paper Co.
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Holyoke Gummed Paper Corp.
Continental Paper Co.
Log Supply Co., Ltd.
Seybold Machine Co.
Bagley & Sewall
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***Standard Wall Paper Co.
Hygrade Corrugated Paper Prod. Co.
***Chase Bag Company
Inland Empire Paper Co.

* *Indicates Number of Repeat Contracts*

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Roof Waterproofing, 4-ply built-up composition roofing.

Austin No. 10 Standard Building. Width 150 ft.; can be varied in multiples of 50 ft. Length, any multiple of 20 ft.

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

PAPER

Vol. LXXXI. No. 5 Thursday, July 30, 1925

The Magazine of the Paper Industry

Montreal Learns Plan for Mattagami Reorganization

I. W. Killam, Largest Individual Holder of Debentures, Outlines Details of Plan in Letter—Leaside Engineering Co. Sues Bayless Pulp and Paper Co. for $1,750,000—W. L. Hall, K. C., Member of Nova Scotia Legislature, Appointed Solicitor for Barnjum Paper Co., One of the Largest Industrial Concerns in the Province

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, QUE., July 27, 1925.—I. W. Killam, of Montreal, the largest individual holder of the debentures of the Mattagami Pulp and Paper Company, has submitted a plan for the reorganization of the Company which is practically certain to be put into effect, thus setting at rest recent rumors of contemplated foreclosure and public sale of the company's properties.

In a letter to debenture holders setting for his plan, Mr. Killam points out that operations under the receiver and manager have shown steady improvement in operating efficiency and in working capital surplus, the present value of current assets being estimated at $600,000 in excess of outstanding receiver's certificates. It is stated that average production of the mill since the beginning of 1924 has been at the rate of 50,000 tons per annum of unbleached sulphite pulp, but Manager S. R. Armstrong is strongly of the opinion that a much more satisfactory margin of profit would be realized if bleaching equipment were installed.

To Raise $2,700,000

The Company has outstanding $1,760,000 6 per cent First Mortgage Bonds and $3,935,000 7 per cent Debenture Stock. Unpaid interest charges on the first mortgage 6's will amount on November 1st next to approximately $540,000. It is planned to raise approximately $2,700,000 of new capital to retire the first mortgage bonds and to provide cash for installation of bleaching equipment and to that end the mortgage securing the debenture stock is to be enforced, the properties acquired on behalf of debenture holders and transferred to a new company, the entire issued capital stock of which will be distributed pro rata to the present debenture holders. The new company will issue such bonds and other securities as may be necessary to provide for the liabilities ranking ahead of the debentures and adequate working capital and if considered advisable a voting trust for not less than three or more than seven years will control the administration of the new company.

Mr. Killam gives it as his opinion that the value of the Mattagami assets as a going concern is sufficient to offset not only the principal and interest of the existing first mortgage bonds but also the principal at least of the debenture stock. It would appear that, beyond surrendering their debentures in exchange for capital stock in the new company, debenture holders will not be asked to subscribe any money to protect their interests, arrangements having been made for purchase by Royal Securities Corporation (of which Mr. Killam is president) of the new bonds or securities to be issued for the purpose of retiring the present bonds and other prior liabilities.

The Company's mills are at Smooth Rock Falls, Ont., on the Transcontinental Division of the Canadian National Railways. The equipment consists of three digesters, two dry machines and three wet machines. The capacity is 350,000 pounds of sulphite fibre per day.

Big Action in Pulp Company's Dispute

One of the biggest actions ever undertaken in the Courts in Quebec City was started this week before Judge Stein, the Leaside Engineering Company suing the Bayless Pulp and Paper Company for $1,750,000. The action is to revindicate $1,750,000 in shares, which the defendants hold in the St. Anne Pulp and Paper Company and the Beaupre Pulp and Paper Company.

The plaintiffs alleged that the shares were sold to them, and delivery promised, and that the directors of the Bayless Company were against them.

So as to prevent the delivery of the shares to any other company, the Leaside Engineering Company effected a saisie and instituted suit for $1,750,000 against the Bayless Company. and certain of its directors, among others Crory, Parsons, Phelps and Bayless.

The defendants advanced the claim that no understanding had been reached between the two companies, and that only pourparlers had taken place, furthermore that the directors who would be interested in the project were not acting in an official capacity, representing the company, and that the pourparlers had never had any result.

Louis St. Laurent, K.C., is representing the Leaside Engineering Company, and Ferdinand Roy, K.C., the Bayless Pulp and Paper Company.

Joins Barnjum Paper Co.

W. L. Hall, K.C., a member of the Nova Scotia Legislature, has been appointed solicitor for the Barnjum Paper Company. The Company, which is reported to be one of the largest industrial corporations in Nova Scotia, will operate mills on the Mersey River, near Liverpool, N. S.

Pine Land Bag Corp. Increases Output

PASCAGOULA, MISS., July 27, 1925.—The capacity of the Pine-Land Bag corporation of Pascagoula, one of the most important industries in this section, has been increased to an output of 4,000,000 paper bags a day since the installation of five additional bag-making machines. The new machines are of the latest and most improved type, and are an addition to the sixty-five that have been in operation since the factory started a year ago.

Chicago Paper Market Yields to Summer Dullness

Stock Business Holds Up Well But There is No Mill Business—Fine Papers Moving Slowly, Increased Postal Rates Hitting Direct Mail Business—Coarse Paper Men Enjoying Good Business but Old Paper Market Remains Quiet—Nock Paper Co. Establishes Quarters

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, ILL., July 25, 1925.—The usual summer dullness continues to feature the fine paper market in the Chicago territory. As a rule, stock business is holding up fairly well, but mill business reverted after one good week to the monotonous tone of "nothing doing." The only bright ray in the fine paper market is the demand emanating from the school supply field. Inquiries are numerous and purchases are being made by school supply and stationery stores that are looking forward to the opening of the new school year early in September.

This fall will witness a larger number of schools and a greater number of pupils in Chicago than were enrolled last year—supply houses are looking forward to a record-breaking year and are placing their orders early.

Fine Papers Move Slowly

Fine papers for the printing trade are moving very slowly. The increase in postal rates is said to be responsible for a let-up in the direct mail business. Advertising matter and form letters are not being sent through the mails in any appreciable quantities; Chicago post office receipts of third class mail have dropped considerably. Printing offices and letter shops are experiencing one of the dullest summers in their history; a few of them are "giving up the ghost," but most of them are holding out in hopes that following a lean summer they will be rewarded with a bounteous harvest this fall. It is considered problematical as to how soon the direct-mail advertising world will accustom itself to the increased rates, although it is a foregone conclusion that this type of advertising has a definite place in the field of publicity and will again assume its position, despite the increased postal tax. In the meantime, advertising men state that a portion of the money previously spent for direct mail is going into trade paper and daily newspaper advertising; it is an ill wind that blows nobody good.

Aside from coated book and label stock, prices of fine papers are unchanged. Coated stock is now quoted at 7½ to 10.

Coarse Papers Doing Good Business

Manufacturers and wholesalers of coarse paper and paper products are enjoying a good business, a number of Chicago houses reporting nice increases. One prominent house reported gains in volume of business in four of the first six months of this year, with increased earnings in five of the first six months of 1925. One of the officials of this company stated that his sales organization has been on its toes since January 1, determined that, despite talk of dullness and slumps in business, they were going to show an increase in sales for 1925 when compared with last year. The fact that they made more money in five of the months and increased their sales in four of the months just passed evidences the fact that the business is there for those who go out and get it. Commenting further, this same executive said that he had just returned from a trip to the mills and learned on that trip that a great many of the mills are gratified with the manner in which business has been received during the past few weeks.

Prices on course papers are very firm and there is no indication of any further declines.

Old Paper Market Quiet

Quietness prevails in the old paper stock market. Prices remain practically unchanged. No. 1 mixed papers have shown a slight strengthening. Kraft stock has likewise evidenced an upward turn.

The roofing market is quiet, very little activity is shown in this branch of the old stock market. However, prices remain unchanged.

H. S. Nock Establishes Quarters

H. S. Nock, formerly vice-president of the Producers Paper Company, and who organized the H. S. Nock Paper Company, on the dissolution of the Producers company on June 1, 1925, has established quarters at 208 South La Salle Street, Chicago. The Producers Paper Company was organized on November 1, 1921. Mr. Nock's entry into the Chicago paper market commenced in July, 1907, when he cast his destiny with the J. W. Butler Paper Company. The H. S. Nock Company will specialize in books and fine writings and is incorporated for $10,000.

W. E. Wroe & Co., with general offices at 22 West Monroe Street, Chicago have sent to the trade a handsomely printed sample of its "Wroe's Catalogset," a special paper intended for offset presswork. The sample is a sheet of 25 x 38, 100 pound stock, and carries the illustrations of two fair maidens and contains the statement that the job was lithographed in six colors by the offset process.

Mohawk Papermakers Sue Henry Ford

[FROM OUR REGULAR CORRESPONDENT]

COHOES, N. Y., July 27, 1925.—The Mohawk Papermakers Inc. which operates mills in this city and Waterford is threatened with the loss of water power at the Waterford plant, it was disclosed by an action started in Saratoga County Supreme Court by the paper corporation and two other concerns against Henry Ford & Son, automobile manufacturers, with a large plant in Green Island. The Mohawk Papermakers Inc. and other concerns petitioned the court for an order compelling Henry Ford & Son to remove flash boards from the top of the Federal dam between Troy and Green Island. The petitions contended that the Ford Company by erecting a two foot flashboard on top of the dam had ruined the natural water power formerly enjoyed by the Mohawk Papermakers and other petitioning concerns.

George O'Connor, of Waterford, attorney for the paper company, charged the Ford Company with taking the water power from Waterford and using it at Green Island. Attorney O'Connor contended the water, since the installation of the flashboard, has backed up to such a depth in the wheelpits that it was impossible to obtain any power. The Waterford plant of the Mohawk Papermakers is at present using auxiliary power, it was stated.

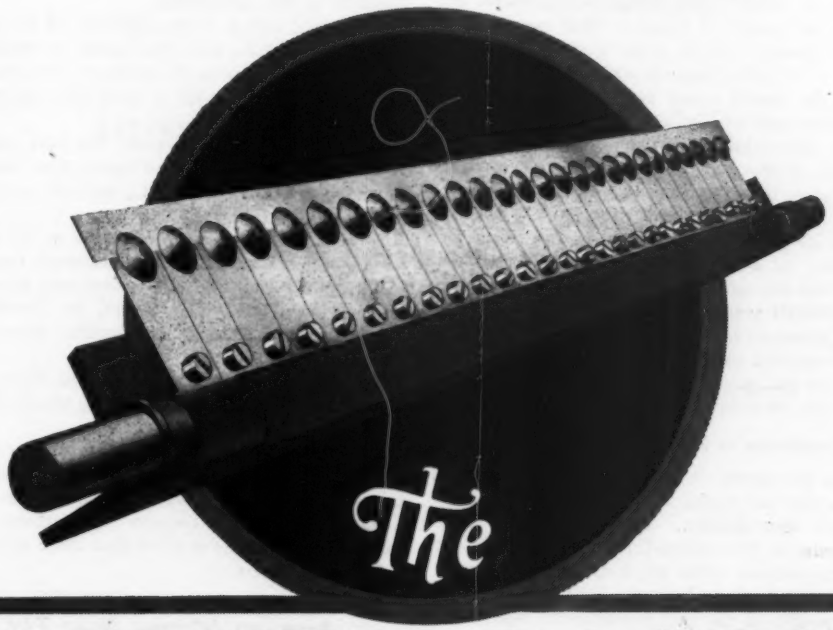
Robert S. Whelan appearing for Henry Ford & Son contended the flashboard were erected by special permission of the Federal Water Power Commission.

Some Holyoke Mills to Be Without Water Aug. 1-9

[FROM OUR REGULAR CORRESPONDENT]

WINDSOR LOCKS, Conn., July 28, 1925.—The Connecticut River Company is sending out notices that the water will be drawn from the Windsor Locks canal August 1 and remain dry until August 9. The canal will be closed to navigators from July 31 to August 10. The largest concern to be affected will be the Windsor Division of the American Writing Paper Company but one or two smaller paper concerns will also be affected and several other industries.

Try It! On One Roll



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If you still doubt the remarkable improvement in doctoring made possible by the new doctor with the spring fingers—the Vickery Doctor—ask us to send you one on 30 days' free trial.

Put it on one of your calender rolls or dryers and watch results.

If the blade doesn't keep the roll absolutely clean under all conditions—

If it ever requires adjustment or tedious fitting like the ordinary doctor—

If the roll shows the slightest sign of scoring—

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But if it proves our claims, think of the time, trouble, and expense it will save you to replace every old style, rigid doctor on your calender rolls and equip every dryer with the Vickery Doctor.

All we ask you to do is TRY ONE.

BIRD MACHINE COMPANY

South Walpole Massachusetts

BIRD MACHINERY

7839

Pulpwood Output to Be Greatly Reduced in Ontario

Owing to Dullness of Markets and High Cost of Production Lumbermen Decide to Cut Down Logging Operations Fifty Per Cent—Port Arthur Mills Make Book Paper Shipment to New Zealand—Woodlands Section Holds Meeting at Iroquois Falls and Discusses Future Prospects.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, ONT., July 27, 1925.—Many things of importance are going on in the lumber and pulpwood industry which may more or less affect the general situation in the paper trade. The manufacturing lumbermen in the East have decided to cut down the logging output during the coming season by 50 per cent owing to the dullness of the markets and the high cost of production. Large stocks of lumber have been piled up in the yards which are not finding a ready sale and an immediate improvement is not in sight. The only remedy, therefore, is to accommodate the amount manufactured to the ratio of consumption and distribution. On the other hand, the values of pulpwood appears to be increasing for the Ontario Government, by a recent order-in-council, raised the fees to such an extent that it is estimated that the provincial revenue will be increased by $500,000 annually.

The dues on spruce pulpwood have been increased from 80 cents per cord to $1.40 per cord and on balsam pulpwood from 40 cents to 70 cents a cord. The rate on other varieties of pulpwood will remains as formerly, viz., 40 cents a cord.

New Experience in Paper Shipping

A new experience in the history of the Port Arthur mills took place recently when a car was loaded with book paper for shipment to Christ Church, New Zealand. This was the first shipment made from the mills to New Zealand, but it is not to be the last. There was at the mills an order for four cars of the same class of paper for Auckland, New Zealand. This shipment was made recently. The weight of the two consignments aggregated 70 long tons. The paper, loaded at Port Arthur, Ont., and bearing the labels of the Provincial Paper Mills, Ltd., Port Arthur, went by rail to Montreal where it was transferred to ship for its far-away destination.

Woodlands Section Holds Meeting

The Woodlands Section of the Canadian Pulp and Paper Association held their summer meeting at Iroquois Falls, Ont., on July 27-29. Representatives were present from the Laurentide, Spanish River, Booth, Price Bros., St. Regis, Riordon and Donnacona Companies. The programme, which was drawn up by H. G. Schanche, of the Abitibi Company, and chairman of the Woodlands Section, included a visit to the plant of the Abitibi Power & Paper Co., with an inspection of the logging and woods operations. There was also a discussion on the present state of future prospects of the Woodlands section.

Notes and Jottings of the Industry

H. F. E. Kent, Toronto, former president of the Canadian Pulp and Paper Association, has returned after spending his holidays at Oak Orchard on Lake Simcoe.

N. E. Wainwright, of the sales staff of the Provincial Paper Mills, Toronto, has returned from a business trip to Chicago and Port Arthur.

E. C. Martin of the Interlake Tissue Mills, Toronto, is spending a vacation at Lake of Bays district for the next few weeks.

Harry P. Reid, superintendent of Kilgour Brothers, paper bag manufacturers and box makers, Toronto, is spending his vacation at his summer home at Port Severn.

The Canadian Paper Trade Association has sent out a questionnaire in regard to the holding of the next annual convention in October. St. John and Winnipeg are both after the gathering and the place of meeting will be determined by the vote of the members of the Association.

The annual outing of the employees of the Hamilton Paper Box Company, Hamilton, was held recently to Hanlan's Point, Toronto. There were some twenty-five events on the athletic program and the department relay race for a silver cup was won by the printing department.

Paper Sales, Limited, Toronto, has been appointed selling agent in Canada for a new line of cover paper manufactured by John Dickinson & Co., London, Eng., and has recently sent out samples to the trade.

To settle an argument, which arose at the annual convention of the Canadian Paper Box Manufacturers Association at Niagara Falls, Ont., a challenge golf contest was played last week at the Rosedale links between J. Hewitt, Jr., President of Paper Sales, Limited, and A. Meredith of Meredith, Simmons Company. Mr. Hewitt was the winner.

Archibald P. Ramage, treasurer of the Missisquoi Pulp and Paper Company, Sheldon Springs, Vermont, was in Toronto lately calling upon the members of the paper trade.

John M. Finlay, secretary-treasurer of Ritchie & Ramsay, coated paper manufacturers, Toronto, leaves this week to spend his holidays at Atlantic City and other points in the New England states.

Stauntons, Limited, Toronto, manufacturers of hanging paper, are contemplating the erection of a large addition to their factory at 924 Yonge street.

American Writing Must Pay $2,000,000

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., July 28, 1925.—Announcement was made this past week that Judge Lowell of the United States District Court had handed down a decree in the case of the Old Colony Trust Company against the American Writing Paper Company directing that the latter company within the next five days pay to the trust company, holders of a general first mortgage on the properties, $2,000,000 in gold; and failing in this he directs that certain property be sold.

The court also says that it is not advisable at this time to sell the entire property. The decree and steps taken are merely the necessary legal steps to bring about the closing of a contract for the sale of the property of the company in Harding, Ohio, as announced last week.

A Correction

In the issue of the PAPER TRADE JOURNAL of July 16 under the heading of "Construction News," a report was printed regrading the Castanea Paper Company, which was not altogether correct. The facts in case are as follows:

The Castanea Paper Company which has a paper mill at Lock Haven, Pa., has taken over the Johnsonburg Pulp & Paper Mills and Auxiliary Plants and Wood Lands pertaining to Johnsonburg Pulp Mills of the New York and Pennsylvania Company. The Castanea Paper Company will continue under the same management. The two companies are under the same consecutive control and there will be no change in their mills. The New York and Pennsylvania Company will continue the manufacture of Pulp and Paper at its other plants located in Pennsylvania and New York.

BETTER BROWNS ON PAPER

FOR brown papers where better fastness properties are required, we recommend the use of National Erie Browns. Alone or topped with suitable dyes, this group of colors produces attractive shades at low cost.

Samples with full directions will be supplied on request, or matches will be made on your paper stock in our laboratories.

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PROVIDENCE	CHICAGO	MONTREAL
HARTFORD	CHARLOTTE	TORONTO

NATIONAL DYES

Narrowness of Market Impresses Philadelphia Trade

Demand Now Slackening for All Grades of Paper and Fine Paper is in Especially Lagging Mood—Hemingway Co. Passes Into Hands of H. M. Bailey and Frank Murphy—Samuel E. Ingber Co. Opens Rag Department—Fibre Specialties Co. Begins Making Drug Boxes

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, PA., July 27, 1925.—With the midweek of July the Quaker City trade began to feel the narrowness of the market for all grades of paper and with the slackening in demand the various houses set about arrangements for vacations for many of the hands who were unemployed as a result of the quieter times. Until the mid-month the trade experienced a fairly well maintained business for seasonable sellers in both the fine paper and coarse divisions. In view of the steady demand for these seasonable goods the paper distributors had every reason to look forward to a more active summer market than anticipated early in the season. But with the passing of the first two weeks of the present month, there was sudden let up in the demand and the industry settled down to the customary Summertime doldrums.

Fine Papers Less Active

The fine paper market which until this time has been chiefly active in catering to the demands of the publishers and larger printers and advertising firms now has passed into a lagging trading period along with the rest of the trade. Before the summer resting spell set in there was a broader demand for books, covers and specialties in the writing paper grades. Now that these allied industries have stored up for their Summer needs the fine paper division is drifting along with a few straggling orders of a hand to mouth character. The Federal Reserve Bank reported in its July Bulletin issued last week that among the industries that showed most notable gain in business during the month of June the printing and publishing trades were among the leaders and this accounts for the greater activity of the book paper markets during the previous month and until the mid-July dullness set in.

Federal Reserve Reports on Labor and Wages

In contrasting the present trend of business with the previous month the trade is assured of a better July report of its activities than that which is made in the recent bulletin of the Federal Reserve Board for the Third or Philadelphia District on the employment and wage conditions in that section of Pennsylvania and New Jersey coming under its jurisdiction. In this report of the employment and wage schedule just issued the Federal Reserve Bank states that in the State of Pennsylvania in the 12 plants reporting there was an increase in employment of 0.6 per cent and a decrease in general wages of 5.6 per cent with an average wage decrease of 6.2 per cent.

In New Jersey, covering the Southern portion where 8 plants reported there was a decrease in employment of 5.3 per cent and a total wage decrease of 0.8 per cent with an average general wage increase of 4.7 per cent.

Very Little Stock Moving

Perhaps the dullest division of the trade is that catering to the mill supplies. There is scarcely any noteworthy purchases of raw materials, the most inactive branch being that of the paper stock. Prices however have not been changed from those of the past couple of months, due to the lack of accumulation in warehouses.

Hemingway Co. Passes To New Owners

One of the oldest of Quaker City stock dealers, the Hemingway Company, 828 N. Hancock street, has changed ownership. This firm, long established, is now controlled by two former employees of the company, H. M. Bailey and Frank Murphy, who last week took over the business. For the past three years Mr. Bailey has been manager of the company while Mr. Murphy for eight years has been supervising the sorting and shipping departments. The business was established back in the 70's by William Hemingway and passed to his son, Edward D. Hemingway, upon his retirement several years ago. With the change in ownership E. D. Hemingway retires from the trade and will continue his travels around the world. He has for almost a decade been spending his time touring various parts of the world in company with Mrs. Hemingway. More than a score of years ago the retiring proprietor bought a large purchase of old papers from a bank located on Market Street and among them were several cigar boxes of old stamps valued at several hundred thousand dollars and the collection of a philatelist which added considerably to the Hemingway fortune by sales at high market quotations for rare specimens, that were to be found only among this famous collection.

Ingber Co. Opens Rag Department

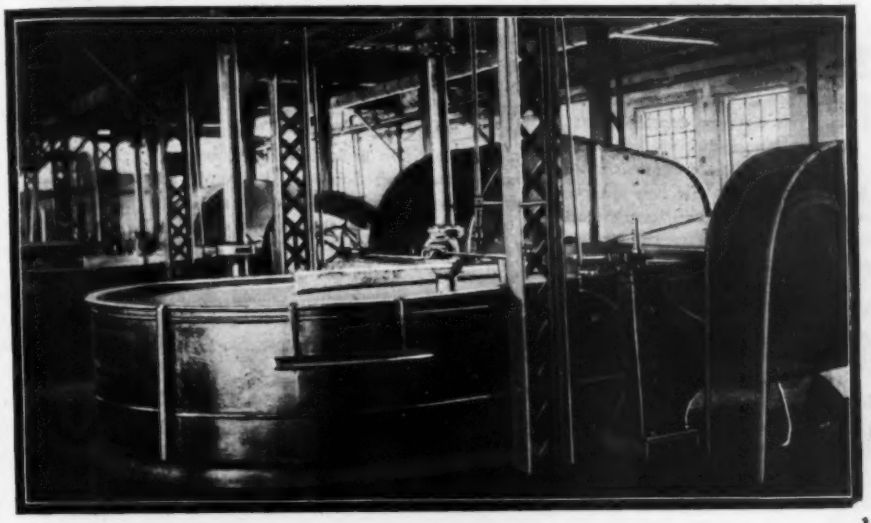
A rag importing department has been established by the Samuel E. Ingber Company, recently opened as paper stock brokers, with offices in the Lafayette Building. The Ingber Company, of which Samuel E. Ingber, for 14 years manager of H. Feldman, began business as stock brokers last Fall and dealing in all kinds of waste, wiping rags and paper stock and has been within recent days featuring imported rags and some domestic stocks. For the purpose of extending the rag business the head of the firm will shortly undertake a tour of the European markets to secure larger importations. A New York Office has been opened at 347 Fifth Avenue under the management of his brother, Nathan N. Ingber. Associated with the head of the firm are his brothers David A. and Isaac Ingber.

Biles and Berman Enter Rag Business

Since acquiring the former headquarters' business of the Universal Waste Paper Company, 620 S. 15th street, the Biles and Berman Company, have opened a rag stock division, for the purpose of grading, sorting and selling new and old rags. The Universal Company, was one of the largest paper stock companies in this city operating 13 barges for the transportation of stock from New York to Philadelphia and the collecting of stocks along the Delaware River ports. Recently the Wilmington branch was sold to the Penn Paper and Stock Company while former manager W. G. Biles of the Universal Company formed a partnership with Barney Berman, as Biles and Berman, and took over the Philadelphia headquarters, at 1520-22 Kater Street and 620 S. 15th Street. A complete equipment for the sorting, baling and grading of rags has been installed. The new division will be under the management of Mr. Berman, while Mr. Biles will continue to supervise the paper stock department.

Fibre Specialties Co. to Make Drug Boxes

Since purchasing its own home to which it removed recently the Fibre Specialties Company, has added to its manufacturing facilities for the production of parallel wound tubes and has opened a new section for the manufacture of a complete line of drug boxes. The new location is at Baker Street and Leverington Ave. and occupies two mill properties and a one story warehouse. Much new equipment has been installed for the increase in operations on paper wound tubes used by the textile mills for cloth rolls and



Great Northern
Paper Company.

IN MAINE

"Way down East" where the art of paper-making has been perfected by long experience, Dilts Beating Engines stand side by side and make their paper. For "paper is made in the beaters," and Dilts Beating Engines make good paper.

Years of experience have taught us much about building good Beating Engines. We have made constant improvement until now we build the Dilts approved NEW TYPE Beater which is superior to others in combining High Speed, Heavy Furnish, Rapid Mixing, Uniform Beating, Quick Dumping, and **no increase in power consumption.** This approved NEW TYPE is truly a remarkable beating engine.

Send for list of users, names of recent purchasers, and list of our unfilled contracts. You will be interested.

Dilts

MACHINE WORKS, Inc. FULTON, N.Y.

EXPORT OFFICE ~15 PARK ROW~ NEW YORK CITY

like purposes, which the company has been producing for the past eight years under the proprietorship of Thomas S. Brown.

National Paper Tube Co. Buys New Plant

The large manufacturing plant of the Traylor Ship Building Company located in Cornwells near Bristol, Pa., has been acquired by the National Paper Tube Company, now in this city at 84 Armat Street and engaged in the manufacture of spiral and straight tubes and paper spools. The Company has not yet decided upon its removal plans but is expected to shortly announce its business extension arrangements to be effected when the new home is occupied. It is anticipated that with the removal to the new quarters, where considerable larger manufacturing facilities have been secured that there will be developed the paper spool-branch, which produces all kinds of textile, tape and other grades of paper spools. The company will have one of the largest manufacturing plants in this section when it takes possession of the new home at Cornwells and it is the purpose of the company of which W. A. Fassnacht, is President to also extend the tube production extensively.

With Chas. Beck Co. 25 Years

A quarter of a century services with the Charles Beck Paper Company will be rounded out on July 29 by Harry M. Glenn and in commemoration of the event the Beck firm has presented him with a gold wrist watch. Because of the absence from the city of many of the staff, the Beck Company made the presentation of the watch last week so that all might be on hand at the occasion of the forwarding of the gift given in recognition of the esteem and high regard of its membership. Mr. Glenn, whose duties cover sale of papers to the printing trade in this territory joined the firm in 1900 as counter salesman at headquarters, 609 Chestnut Street, at that time one of the largest distribution centers for fancy papers and novelties in this city. President Leonidas Beck, head of the firm, in making the presentation referred to Mr. Glenn's loyalty and energetic pursuit of duties stating that it won for him the promotion to the present position which he holds and the recognition of the firm, in this memento of appreciation of the long years of faithful services. He received the congratulations and good wishes of the assembled staff who joined in the informal presentation ceremonies, when the recipient of the token of esteem of the firm responded to their well wishes in brief talk, voicing his pleasuring in associations with the company down through the years of service. Then the employees and members of the firm gave three cheers for their co-worker as a closing tribute.

John A. Murphy Returns From Europe

John A. Murphy, head of the Daniel I. Murphy Company, Brown Building, Fourth and Chestnut Streets, who has been spending the past three months on an extended tour of the rag centers of Europe will return to his desk on July 25th having sailed for home last week. With his return the Murphy Company will have effected a complete statistics of the rag markets of Europe for the purpose of developing its business so that it will be able to supply the American Mills with the best possible stocks of new and old rags obtainable in foreign ports. It was solely for the purpose of investigating the various markets of Europe that the head of the Murphy Company made the rounds of the foreign dealers so as to list only those firms of reliable packing and grading sources in order to assure the best possible services to the domestic mills.

Osburn Trading Co. In Bankruptcy

An involuntary petition in bankruptcy was filed in the Federal Court of Philadelphia during the week against the Osburn Trading Company, Bourse Building, of which Robert Cecil Osburn is head. Those filing the petition are the following creditors: Dells Paper and Pulp Company, $9,553; Price and Pierce $807 and the Nashua River Paper Company, $3,439. William T. Kelsh was appointed receiver. The Osburn Trading Company was owned solely by R. C. Osburn, formerly associated with the Garrett-Buchanan Company under contract for ten years from 1898 to 1908. He was held in high estimation by his employers and enjoyed a lucrative patronage among corporations handling bulk contracts in papers such as railroads and government departments. He conducted a large commission business with drawing accounts from the firms whom he represented and controlled all accounts south of the Ohio River and east of the Mississippi. Among the railroads whose paper supplies were contracted through the Osburn Company, on brokerage basis, were the Seaboard Air Line, Atlantic Coast and Southern Railroad. He also carried several generous accounts with the larger stationery houses of the south and recently had been transacting considerable business with the Government in Washington, where a branch office was opened. Several suits recently had been instituted against the company in the courts of Philadelphia, among them the Southworth Paper Company, of Mittineague, Mass., and the Flambeau Paper Company of Wisconsin. Mr. Osburn has been engaged in business on his own account since 1908.

Charles W. Williams & Co. Adds To Forces

J. M. Waldecker has been appointed to the position of assistant to Manager Elmer N. Renner, Philadelphia manager of the Charles W. Williams Company with offices in the Bourse. He will look after the local sales territory and office management. The Williams Company is now distributing its new samples of Holly Tone Box Cover Papers which will be especially adapted for the Xmas and holiday trade.

Standard Box Co. Gets Additional Insurance

The Standard Paper Box Company, of Reading, Pa., which inaugurated a group life insurance program for its employees in 1919, has extended the plan to include group health and non-occupational accident insurance.

The original policy, underwritten by the Metropolitan Life Insurance Company, provides a total life insurance protection of approximately $40,000. Each employee, who has been with the box company six months is insured for $500, after a year's service he secures $500 protection which is increased at the rate of $100 a year until a maximum of $1,000 is attained.

Under this contract any insured employee is guaranteed the full amount of his insurance in the event of his becoming totally and permanently disabled before age sixty.

The present policy was underwritten by the Metropolitan Life on a co-operative basis; employer and employees sharing the cost of the insurance. Should a contributing employee become ill or injured in a non-occupational accident he will receive, according to his salary, graduated weekly benefits for a maximum of thirteen consecutive weeks.

Supplementing the actual insurance benefits of the contracts, which include exemption from medical examination, certain service advantages are offered.

These include a free visiting nurse service and the distribution of pamphlets on health and hygiene.

New Minneapolis Sales Office of W. H. Jones Co.

[FROM OUR REGULAR CORRESPONDENT]

MINNEAPOLIS, Minn., July 27, 1925.—New sales arrangements have just been announced for this territory by the W. A. Jones Foundry and Machine Company of Chicago. F. S. Van Bergen will be district manager with offices in 614 Builders Exchange. The territory covered will include all of Minnesota North Dakota and South Dakota, also parts of Iowa and Wisconsin which adjoin Minnesota.

The Minneapolis office will handle the sales of the entire Jones line in this territory, including speed reducers, friction clutches, gears, iron pulleys, flexible couplings, line shaft equipment and miscellaneous power transmission specialties.

Economy Items of the Voith Stock Inlet

1. The life of the wire is increased 20 to 30%, a saving that reduces wire, shutdown and replacement expense.

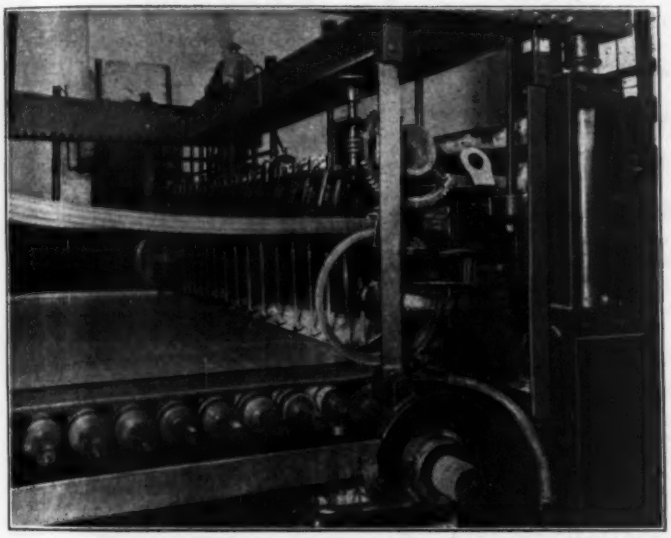
2. The capacity of the paper machine is increased whenever the drying capacity is available. The percentage of defective paper is also greatly reduced.

3. Variations in paper can be quickly corrected and accurate adjustments made while the machine is running.

4. The absence of aprons and slices adds to the efficiency of the wire. Time and trouble associated with them are eliminated.

5. The Inlet can be quickly and readily washed down for changes and there are no parts liable to give trouble.

6. Broke losses are kept at a minimum. Needless wastes that interfere with production are checked.



You cannot be abreast of the times and not be posted on the remarkable results now being obtained with the new Voith High Pressure Stock Inlet. This information is yours for the asking. An illustrated booklet is ready now. Write for your copy today.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Ave.

Trade Marks Department

CONDUCTED BY NATIONAL TRADE-MARK CO., WASHINGTON, D. C.

The following are trade-mark applications pertinent to the paper field pending in the United States Patent Office, which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade Mark Company, Barrister Bldg., Washington, D. C., trade-mark specialists. As an additional service feature to its readers, PAPER TRADE JOURNAL gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering.

ARKSAFE No. 213,274. Arkell Safety Bag Company, New York City. For paper linings for barrels, bags, drums, and boxes, and wrapping paper.

SPINDRIFT No. 214,733. McLaurin-Jones Company, Brookfield, Mass. For fancy coated papers adapted especially for box covers and linings, envelope linings, and similar uses.

SPRAYCOTE No. 214,734. McLaurin-Jones Company, Brookfield, Mass. For gummed paper.

POLLOCK'S PACIFIC COAST No. 214,812. Pollock Paper and Box Company, Dallas, Texas. For wrapping paper.

FLORISTA No. 215,282. The Tuttle Press Company, Appleton, Wis. For crepe paper in rolls and folds.

FLAMINGO No. 214,944. Continental Paper and Bag Mills Corp., New York City. For packing paper.

FEATHERPLATE No. 214,871. Kimberly-Clark Company, Neenah, Wis. For book paper.

FOX RIVER-50 No. 213,964. Fox River Paper Company, Appleton, Wis. For writing paper.

CENTURION No. 214,997. Frederic T. Burkhardt, Holyoke, Mass. For writing paper.

SUNNY BARCO, No. 205,782. B. A. Railton Company, Chicago. For paper items.

MAIPLANE BOND, No. 213,596. Harry R. Stanford, Washington, D. C. For bond paper.

MONOMELT, No. 213,785. R. E. Holland, Chicago. For type casting machines.

Mersey Paper Mill Has $2.25 Rate to New York

"The two hundred ton news print mill to be built by Mr. Barnjum and associates on the Mersey River at Liverpool, N. S., will undoubtedly be one of the lowest cost mills on this continent," says the *Pulp and Paper Magazine of Canada*. It will be one of the few paper mills in the world, located at tidewater with open harbor the year round. Some other advantages are: water power situated less than three miles from mill site; rail connection; ample wood supply through its own fee-land holdings of high grade all spruce wood; unexcelled labor conditions; and a freight rate to New York of $2.25 per ton. This mill will have the largest self-connected water power in the Maritime Provinces, which the chief engineer of Nova Scotia Power Commission rates at 45,000 continuous horse power, or 75,000 commercial horse power, with an ample market for any surplus power above the requirement of the two hundred ton paper mill. The lands owned by Mr. Barnjum and his associates have been thoroughly surveyed, cruised, and estimated, during the past year, by one of the most competent and experienced foresters in the Dominion, who rates their capacity at an annual cut of 70,000 cords without diminution of the supply. Nova Scotia, owing to its proximity to the sea and the gulf stream, has a mild climate with large precipitation, the average for 37 years being 57 inches annually. This combination produces the most rapid forest growth in Canada, and the smallest fire hazard of any province in the Dominion, and, with a reorganization of the Provincial fire ranging system that will take effect under the new Government, can be made practically fire proof. Mr. Barnjum's ambition is to make this the lowest cost and most modern news print mill on the Continent, as a monument to his life's work, and the province of Nova Scotia.

"The 250,000 acres of fee land owned by the company will be operated under the most approved and scientific methods of forestry. Another important feature is that the farmers are to be provided with a market for what wood they desire to cut, thereby eliminating the cause of the export of any more pulp wood from the province of Nova Scotia.

"It is expected that construction work will be started as soon as the location is decided."

Pulpwood Consumption and Wood Pulp Production:

WASHINGTON, D. C., July 27, 1925.—The Department of Commerce announces that, according to data collected in co-operation with the Department of Agriculture, the total quantity of pulp wood consumed in 1924 was 5,768,082 cords, reported by 239 mills, as against a consumption of 5,872,870 cords by 241 mills in 1923, a decrease of 1.8 per cent. The total production of wood pulp in 1924 was 3,723,266 tons, a decrease of 1.7 per cent as compared with 3,788,672 tons for the previous year.

The leading three states in this industry are Maine, Wisconsin, and New York. Maine and New York reported slight decreases, while Wisconsin showed a small increase for 1924 as compared with 1923.

Detailed statistics are presented in the following tables. The figures for 1924 are preliminary and subject to such correction as may be found necessary upon further examination of the returns.

TABLE 1—WOOD CONSUMED AND PULP PRODUCED, BY STATES: 1924 AND 1923

State	Pulpwood consumed (cords)		Pulp produced (tons of 2,000 pounds)	
	1924	1923	1924	1923
United States	5,768,082	5,872,870	3,723,266	3,788,672
Maine	1,234 172	1,273,794	895,451	901,007
Wisconsin	1,071,284	1,043,056	609,081	577,993
New York	905.767	959,517	755,156	760,199
Pennsylvania	406,866	444,329	216,862	236,900
New Hampshire	269,391	311,434	151,863	188,323
Virginia	268,946	249,079	136,105	130,012
All other States	1,611,656	1,591,661	958,748	994,238

TABLE 2—PULPWOOD CONSUMED, BY KINDS: 1924 AND 1923

Kind of wood	Quantity (cords)		Per cent distribution	
	1924	1923	1924	1923
Total	5,768,082	5,872,870	100.0	100.0
Spruce:				
Domestic	2,079,182	2,195 395	36.1	37.4
Imported	890.523	1,054,273	15.5	18.0
Hemlock	965,359	9 0 102	16.7	16.5
Yellow pine	427,961	419,734	7.4	7.1
Poplar:				
Domestic	218.036	152,886	3.8	2.6
Imported	157,368	181,808	2.7	3.1
Balsam fir	313,018	237.509	5.4	4.0
Yellow poplar	128.037	102 781	2.2	1.8
White fir	93,296	65,783	1.6	1.1
Jack pine	75,775	68,558	1.3	1.2
Tamarack or larch	74.659	56,233	1.3	1.0
All other	225.908	263,874	3.9	4.5
Slabs and other mill waste	118,960	103,934	2.1	1.8

TABLE 3—PRODUCTION OF WOOD PULP, BY PROCESSES: 1924 AND 1923

Process	Quantity (tons)		Per cent of increase or decrease (—)
	1924	1923	
Total	3,723.266	3,788,672	—1.7
Mechanical	1,643,283	1,580.553	4.0
Sulphite	1,336,551	1,448,690	—7.7
Soda	440.697	445,162	—1.0
Sulphate	302,735	314,267	—3.7

Pejepscot Co. Conveys Power Property

BOSTON, Mass., July 27, 1925.—In a deed which has been filed in the Sagadahoc County Registry, Bath, Me., the Pejepscot Paper Company has conveyed property valued at about $300,000 to the Androscoggin Water Power Company. The property consists of land, buildings, dam, water and riparian rights. It is the understanding that a new company is to be formed to conduct the properties as a subsidiary of the Pejepscot Paper Company, all of the stocks of the Androscoggin Water Power Company being retained in the treasury of the Pejepscot Company, which company also has two other water developments on the Androscoggin River.

Gluttons for Work!

No. 77—Beloit Duplex Stuff Pump

Made in sizes 6″x14″, 7″x16″, 8″x18″. SPECIFICATIONS—Plungers, ball valves and seats, bronze; bronge bearings on crank pins; strap and gib keyed; crosshead bearings bronze brushed; self-oiling guide; suction and discharge separate or connected; easy of access. Weight 3,500 to 5,000 pounds.

THE conditions under which most pumps operate are far from ideal; in fact, you sometime wonder how they operate at all.

The *"Beloit" Heavy Duty* Pumps are about as "foolproof" as mechanism can be made. Their sturdy, powerful construction keeps them in shape to perform consistently and regularly in continuous 24-hour service. They are "gluttons" for hard, steady, disagreeable work. Their endurance is amazing. And the freedom from repairs and attention with which they operate is an outstanding characteristic.

Batteries of these pumps in mills the world over prove their efficiency. Two of many models are illustrated. If in the market, let us figure with you.

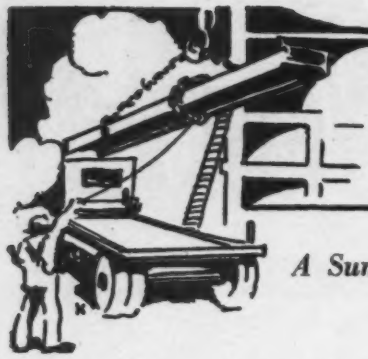
Ask for Special Pump Bulletin and get the true facts

BELOIT PUMPS FOR SERVICE

Beloit Iron Works

SINCE 1858 BUILDERS OF BOARD MILL AND CONTAINER PLANT MACHINERY

Beloit, Wis., U. S. A.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

St. Joseph, Mich.—The Mid-Lakes Paper Company is said to have tentative plans under advisement for the erection of an addition to its mill for considerable increase in capacity. F. S. Bickering is general manager.

Windsor, Vt.—Sevigne, Pearl et Cie, recently organized, have taken over a local building, formerly used as a hosiery mill, and will remodel and equip for a new mill for the production of special processed papers, suitable for the wrapping of food products, etc. It is expected to begin operations at an early date. The new company is headed by Henri Sevigne, Nashua, N. H., and A. Y. and Harold Pearl, both of Dover, N. H.

Monroe, La—The International Paper Company, 100 East Forty-second street, New York, is said to be developing tentative plans for expansion in the local mill of the Bastrop Pulp & Paper Company, recently acquired, to provide for considerable increase in present output.

Beaver Falls, Pa.—J. S. Bouthan, 1417 Seventh avenue, and associates have awarded a general contract to Kirker Brothers, College avenue, Beaver Falls, for the construction of a new paper storage and distributing building on Eighth avenue, near Twenty-fourth street, to be one-story and basement, 80 x 100 ft., estimated to cost $37,000. J. E. Martsolf, 512 Third avenue, New Brighton, Pa., is architect.

Galesburg, Mich.—The Galesburg Paper Box Company, recently formed with a capital of $25,000, is reported to be arranging for the operation of a local plant. M. H. Land, Galesburg, heads the company.

Scitico, Conn.—The Gordon Brothers Company has taken over the local paper mill and property of J. D. Stowe & Sons, comprising a number of buildings and a tract of about 59 acres of land. The Stowe company has been operating the industry for a number of years. The new owner is stated to be arranging to continue production at the mill, with projected later expansion.

Brunswick, Me.—Following out its plans for power development, the Androscoggin Water Power Company, recently formed by officials of the Pejepscot Paper Company as an affiliated organization, is disposing of a bond issue of $1,500,000, a portion of the fund to be used for the acquisition of the hydroelectric properties o the parent company. The company is said to have plans in prospect for extensions in present generating plants.

Pottstown, Pa.—The Ferce Paper Box Company has broken ground for the construction of a new one-story addition, 60 x122 feet, for considerable increase in output. It is expected to have the structure ready for equipment installation at an early date.

Lock Haven, Pa.—The New York & Pennsylvania Company has completed the rebuilding of the portion of its local mill, destroyed by fire last fall, and will place the new unit in service at once. The capacity of the digester department has been increased and an additional working force will be employed, totaling in all more than 100 men. The company was reorganized recently, taking out a charter under the same name in Delaware, with capital of $9,000,000.

Holyoke, Mass.—The Rosmarg Coated Paper Company is negotiating for the purchase of the plant and property of the Whitmore Mfg. Company, manufacturer of paper products, now in receivership, and purposes to consolidate with its organization. The purchasing company plans to continue production at the local mill of the Whitmore interest, for increased output. Russell L. Davenport is receiver for the last noted company.

Carlisle, Pa.—The Carlisle Paper Box Company has authorized plans for the early rebuilding of its local plant, recently destroyed by fire with loss estimated at $75,000, including equipment. The new plant will be located on the previous site on Factory street. Pending rebuilding, the company has leased space formerly used by the Bedford Shoe Company for a temporary plant.

Long Island City, N. Y.—The Hygrade Corrugated Paper Products Corporation has work under way on a new building in the Degnon Terminal district, and plans to have the structure ready for service at an early date.

Fort Alexander, Man.—The Spanish River Pulp and Paper Mills, Ltd., is reported to have plans well under way for the erection of its proposed local mill for the manufacture of newsprint, with initial unit to provide for an output of about 200 tons per day. The entire project is estimated to cost in excess of $4,000,000, with equipment.

New Companies

New York, N. Y.—John Henschel & Co., Inc., has been incorporated with a capital of $10,000, to manufacture and deal in tracing papers and kindred paper products. The incorporators are John Henschel and C. Ufert. The company is represented by J. M. Reilly, Jersey City, N. J., attorney.

Springfield, Mass—The Springfield Paper Box Company, Inc., has been incorporated with a capital of $100,000, to manufacture paper boxes and containers. Roscoe W. Buzzell is president, and Roy P. Hall, 279 White street, Springfield, treasurer.

New York, N. Y.—The Single Service Napkin Corporation has been incorporated with a nominal capital of $5,000, to manufacture paper specialties. The incorporators are F. Seckler and J. Avrutis. The company is represented by Reswick & Avrutis, 15 Park Row, New York.

New York, N. Y.—The Trio Finishing Company has been incorporated with a capital of $9,900, to deal in paper goods. The incorporators are F. Iacono and A. Faber. The company is represented by W. S. O'Connell, 38 Park Row, New York.

New York, N. Y.—The Holyoke Paper Corporation has been incorporated with a capital of $15,000, to manufacture and deal in paper specialties. The incorporators are C. F. Heaphy, L. Jacobs and J. Kleiner. The company is represented by Kleiner & Britwitz, 299 Broadway, New York.

Kingston, Pa.—The Ranson Paper Company has been incor-

BLEACHED and UNBLEACHED

SULPHITES

KRAFT PULPS

GROUND WOOD

NORRONA

PULP STONES

PERKINS-GOODWIN CO.
33 WEST 42nd STREET
NEW YORK

PAPER

PRINTING PAPER

of

EVERY DESCRIPTION

porated under Delaware laws, with capital of $100,000, to manufacture paper products. The incorporators are William Brewster, Kingston, Pa., and James A. McNey, Ranson, Pa. The company is represented by the Capital Trust Co. of Delaware, Dover, Del.

New Companies

Paterson, N. J.—L. E. Carpenter & Company has been incorporated with capital of $100,000, to manufacture processed papers, etc. The incorporators are Lawrence E. Carpenter, Charles V. Austin and Harold E. Shaw. The company is represented by John Grimshaw, 26 Hamilton street, Paterson.

Brooklyn, N. Y.—The Ideal Cup Corporation, has been incorporated with a capital of $125,000, and 1,000 shares of common stock, no par value, to manufacture and deal in paper cups and kindred paper specialties. The incorporators are F. E. Ruhling, I. Bonnerwith and G. Black. The company is represented by Hirsch Sherman & Limburg, 160 Broadway, New York.

Jersey City, N. J.—The New York Blue Print Paper Company, has been incorporated with a capital of $100,000, to manufacture blue print and other papers. The incorporators are Charles Bruning and Albert M. Voss. The company is represented by George Foerst, 96 Terrace avenue, Jersey City.

Springfield, Mass.—The Package Paper Company has been incorporated with capital of $165,000, to manufacture manila and other wrapping papers. The incorporators are Harvey H. Bundy, Julian P. Beek and Edwin W. Stanley, 10 Dana street, Cambridge, Mass. The last noted is representative.

Boston, Mass.—The L. H. Bowmar Paper Company, Inc., has been incorporated with capital of $5,000, to manufacture and deal in paper and paper products. The incorporators are Richard Whipple, Burton J. Bowmar and Louis H. Bowmar, Needham, Mass. The last noted will be treasurer and representative.

Trenton, N. J.—The Trenton Fibre Products Company has been incorporated with capital of $25,000, to manufacture fibre products. The incorporators are Edward L. Lewis and Fred G. Hodges. The company is represented by Paul H. Wendel, 13 North Stockton street, Trenton.

Boston, Mass.—The Newfoundland Pulp and Lumber Company has been incorporated with a capital of 1,000 shares of stock, no par value, to construct and operate a wood pulp mill. Harold J. Ellis is president, and Walter L. Benn, 34 Hancock street, Boston, treasurer and representative.

Financial

Holyoke, Mass.—In connection with its plans for reorganization, the American Writing Paper Company has secured permission from the Federal Court to sell its properties in Ohio, known as the Excello and Franklin Mills, respectively. It is purposed to advertise and hold a public auction in the near future.

Brooklyn, N. Y.—The Gibraltar Corrugated Paper Company has filed notice of reduction in capital from $120,000 to $90,000.

Tait Paper & Color Industries Have Outing

GLENS FALLS, N. Y., July 20, 1925.—The annual convention of the wall paper divisions of the Tait Paper and Color Industries was held in this city last week and represented a gathering from a score of states. The convention provided a week of considerable activity, the various sessions being given over to a review of the new offerings for 1925-1926, an analysis of financial and sales problems, exchange of ideas and discussion of general trade conditions. Branch managers of the company were all optimistic regarding business for 1926.

Each noon during the week luncheon was served in the restaurant of the Imperial Wall Paper plant. Followed an hour's conference during which many questions were considered, in accordance with a pre-arranged program. Each luncheon conference was opened with a talk by one of the officials of the corporation or branch managers, followed by a general discussion of the subject at hand. Among the speakers were George Tait, President of the Tait Paper and Color Industries; Tynan S. Marshal, of Hackensack, N. J., vice-president and director of sales; S. Carter Hall, vice-president and director of purchases; Philip J. Riley, vice-president in charge of Imperial and Plattsburg lines; John C. Scott, in charge of Campbell and Hobbs lines; John H. Coy, treasurer; William E. Burdett, secretary of the Imperial Color Works, Inc. and manager of the Insurance Bureau; James H. Pearsall, auditor; Henry A. Farley, of Hackensack, and Fred R. Caruth, of Pittsburg, district managers.

The principal social feature of the convention occurred on Thursday evening when the Imperial Wall Paper Company entertained the gathering at dinner at the Leland House, Schroon Lake. A pleasing part of the Schroon Lake dinner was the singing by Oscar Seagle and a double quartet of male voices from the Seagle Colony. Friday evening Mr. and Mrs. Tait entertained with a lawn party at their home in this city.

In addition to the officials and managers already mentioned the convention was attended by the following managers of distributing branches: M. C. Fuhrman, Chicago; T. G. Brown, Albany; W. S. Knapp, Chicago; F. R. Caruth and L. L. Brink, Pittsburg; F. J. Lock, St. Paul; E. C. Cummings, Cincinnati; George N. Douglas, Kansas City; W. F. Gunn, Louisville; H. G. Snyder, Utica; William Hoffman, Omaha; K. A. Anderson, New Haven; R. S. Shaffer, Spokane; R. H. Dickson, St. Louis; C. H. Bark, Syracuse; E. C. Lamb, Springfield, Mass; M. H. Oliver, Minneapolis; C. J. Griffin, Troy.

A number of the branch managers spent Sunday at the new mill of the Plattsburg Wall Paper Company at Plattsburg, one of the units of the Tait Paper & Color Industries Inc. The trip to and from Plattsburg was made by auto.

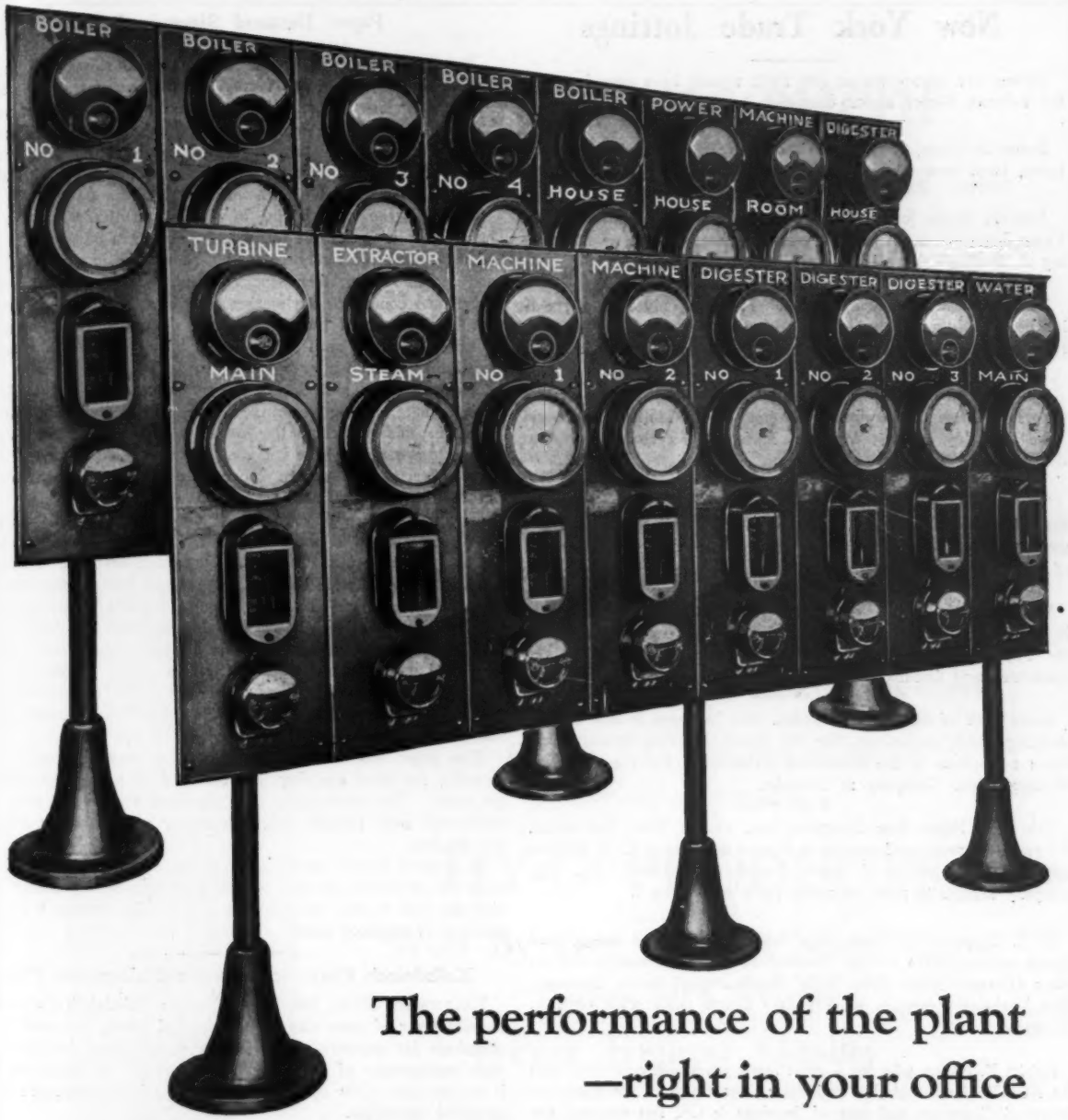
New Edition Paper Makers' Directory of All Nations

The new edition of the "Paper Makers' Directory of all Nations"—now in its 34th annual issue—will be found particularly easy of reference, being alphabetically arranged throughout, both as regards countries and mills, while the list of mill productions under more than 400 trade headings is also alphabetically classified in three ways, under goods, country of origin, or name of firm.

Very numerous have been the corrections to names, addresses, mill productions, machines, output, power used, etc., in the last twelve months. In addition, the sections dealing with Czecho-Slovakia, Hungary, and Lithuania have been wholly re-cast, many of the mill names in Hungary, for convenience, being now given in two language form.

Hitherto, owing to conditions in Russia since the war, it has been impracticable to materially revise the list of mills in that country, but at last it has become possible to give an entirely new schedule of some 80 paper, pulp, and board mills actually working there; these entries are arranged under the name of the mill—given in English form—not under that of the firm. There are also 22 factories which in 1924 were idle, and 24 more concerning which no particulars have been forthcoming.

The international character of this Directory and the usful Buyers' Guide on pages XIII-XXXVIII renders it a valuable medium for bringing paper makers into communication with merchants, wholesale houses, newspaper proprietors, large printing firms, etc.; Engineers of all kinds with paper makers, pulp and board manufacturers, printers, chemical manufactuers, etc.; Chemical and color manufacturers etc. with paper makers and pulp manufacturers; China clay and fiber merchants, paper, pulp and board agents, paper stock dealers, felt and paper machine wire manufacturers, etc. with paper makers, and a host of allied trades, not only at home but in foreign and colonial markets.



The performance of the plant —right in your office

—or in the instrument room, at the main switchboard or at any other point irrespective of distance from the pipe in which flow is being metered.

This is possible only with electrically-operated flow meters because the meter body, located at the pipe where the flow nozzle is installed, is *electrically* connected to the recording instruments. And the instrument panels can be grouped or installed in duplicate as desired.

G-E Electrically Operated Flow Meters have many superior characteristics. Ask our district specialist to tell you about them.

Flow Meters
Mechanically Operated and Electrically Operated

37-15

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN ALL LARGE CITIES

New York Trade Jottings

Offices and salesrooms at 320 Fifth avenue have been leased to the Lehman Bleyer Paper Company.

* * *

Frank A. Gage, Inc., 139 Franklin street, dealers in paper and twine, have been discharged from bankruptcy.

* * *

John R. Hecht, custom expert of the Import Committee of the Paper Industry, is on his two weeks' vacation which he is spending at Martha's Vineyard.

* * *

The Salesmen's Association, which has been omitting its weekly luncheons, held a weekly gathering Monday, the members discussing trade conditions around the luncheon table at the Hotel Belmont.

* * *

Dr. H. H. Brown of St. Albans, Vt., a specialist on insulating papers and formerly technical director of the Hollingsworth and Vose Company of East Walpole, Mass., was a recent visitor in the city.

* * *

The Central Union Trust Company of New York has been appointed trustee for Inland Paper Board Company, Inc., first mortgage seven per cent serial gold bonds due serially in the amount of $600,000.

* * *

W. G. MacNaughton, secretary of the Technical Association was in Washington, D. C. on Monday in attendance at a meeting of the Paper Testing Committee at which the year's work of the committee was discussed.

* * *

Gosta Hall of Stockholm, Sweden, who has been in this country studying paper technology for the Royal Swedish Institute, has taken a position in the Technical Department for the American Writing Paper Company at Holyoke.

* * *

The Gem Paper Box Company, Inc., of 430 West 14th street, is now in the process of moving to its new quarters at 42-50 William street, northeast corner of Harris Avenue, Long Island City. The company expects to start operating there on August 1.

* * *

F. C. Teipel of 53 Park Row has been appointed sole United States representative of the Verband Deutscher Druckpapier-Fagriken (German News Print Mills' Syndicate) of Berlin, Germany. The Verband comprises most of the larger news print mills in Germany.

* * *

Robert E. Fuller, who for a great many years was connected with the New England Technical and Sales Department of the American Dyewood Company, and late of Jennings & Co., has assumed the duties of Technical Advisor in the Boston Sales Department of the American Aniline Products, Inc. of 45 E. 17th street, this city.

* * *

Secretary W. G. MacNaughton after his two weeks' vacation spent in Ottawa and Montreal is back at his desk at the executive offices of the American Paper and Pulp Association. While in Ottawa Mr. MacNaughton participated in the opening of a new traffic bridge at Maniwaki, Que.

* * *

The De Luxe Paper Company, Inc., of 121 Spring street, which is in bankruptcy proceedings, has filed a schedule showing its liabilities to be $69,313 and its assets, $37,900. The main item of the assets is accounts valued at $28,850. The principal creditors are Coy, Disbrow & Co., $2,500; Consolidated Paper Bag Co., $2,221; American Mfg. Co., $1,776; S. C. S. Box Co., $2,237; Standard Box Co., $1,845.

Paper Demand Slow in Boston

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, MASS., July 24, 1925.—A general slowing-up in practically all business in this section for the past fortnight is having its telling effect upon the local paper industry. But merchants agree that about one month more of sub-normal conditions will see the end of the protracted dull period here. Dull in one sense of the word, yet when books are compared with similar periods last year July seems to have held its own.

Based on the weak buying of months past leaders in the trade here say it is reasonable to assume that an era of buying is bound to come soon, probably beginning about September 15. Jobbers and retailers admit their stocks are low—extremely low and that they must come into the market soon but they add that they will not stock up until better conditions show themselves in general business—that is—until all kinds of business create a better demand than there is at present.

Meanwhile the local business is taking care of the usual small order trade to long established customers occasionally having a spurt in this particular line or that particular brand. Several houses this summer have had some little success in "drives." They have advertised first then concentrated on some particular line offering at some attractive price.

The demand from merchants handling fine grades is about the most active spot in the market. Stationers, it is reported, are calling for generous orders of fine grade material, anticipating a good fall business in this line. Publishers and printers are doing a fair business, adding to the business of fine grade houses.

The coarse division shows little improvement but "feelers" put out this past week indicate that the business should open up most any time now. Manufacturing activities where the coarse grades are needed are marking time right now but a survey by certain banks in this district, and reports coming from credit houses, indicate that a good fall business may be expected.

The paper box men will share in this they say, and will be grateful for most anything that comes their way in the form of an order. The waste paper and rag stock men report very quiet days with mills slowing down constantly and little rag stock on the market.

In general Boston trade is quiet, has been all summer, but a tone of optimism pervades the market because merchants know that the time is near when buying will actually become a necessity because of depleted stock.

Kalbfleisch Corp. to Improve Kalamazoo Plant

KALAMAZOO, Mich., July 27, 1925.—The Kalbfleisch Corporation, manufacturer of rosin size satin white and a very extended line of chemicals for industrial purposes, announces plans for the immediate enlargement of the Kalamazoo plant and its expansion until it becomes one of the really important units in this concern's widely extended operations.

The Corporation's engineering in New York is now working on the details of the improvements proposed in Kalamazoo and their exact nature will be known in a short time. The new buildings will include an adequate power plant, also a large addition to the present factory. Other buildings are to follow within another 18 months.

The Kalbfleisch Corporation purchased the property of the Michigan Silo Company, at the intersection of Race street and the Grand Trunk's southside extension. In addition to the buildings, there are eight acres of land. The deal completing the transfer of the site has been finished and enough of the land has been cleared and leveled to make it possible to erect the buildings for the enlargement of facilities locally.

This concern in 1926 celebrates the hundredth anniversary of its founding. It is recognized as one of the strongest industrial chemical manufacturing concerns in the world.

Announcement

Hy-G Paper Napkins and Dispensers offer the solution to the unsanitary and wasteful use of paper napkins.

Hy-G Products are in a class by themselves.

The ECONOMY of HY-G PRODUCTS counteracts the lowest priced paper napkins, which in every shape or fold in the crude manner they are served, are always *wasteful* to the extent of 50%.

Over sixty distributors throughout the country command ever increasing sales and handsome profits on Hy-G Products because of their exceptional merits.

Hy-G Products sell at sight whenever and wherever introduced to paper napkin consumers.

Exclusive Distribution Only.
Details on request.

HY-G PRODUCTS

"Won By One Never Loose"

Saves 50% Waste

Plus Highest Quality

Independent Paper Mills, Inc.

Patentees—Manufacturers

Brooklyn, N. Y.

U. S. A.

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PAPER TRADE JOURNAL
ESTABLISHED 1872

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PAPER

The Magazine of the Paper Industry

HENRY J. BERGER, Editor

Member A. B. C. Audit Bureau of Circulations

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TRADE DULL BUT BETTER OUTLOOK

After a survey of general business conditions that has just been finished, the Guaranty Trust Company of New York concludes that although the usual mid-summer lull in many of the important branches of production and trade is in evidence, it is less pronounced than was anticipated earlier in the season and that increasing confidence characterizes the business situation.

"In comparison with the situation last year" the survey continues, "present conditions appear in an especially favorable light. Nearly all indexes show greater activity in production and trade than a year ago. Indeed, in some lines the recession of the last few months has given way to expansion, in spite of seasonal influences. With business more active than was generally expected a few months ago, it is probable that, barring a reversal of the present favorable crop prospects, more than the usual quickening of activity will occur in the autumn.

"But neither in the temper of the business community nor in the current relation between production and consumption is there any indication of a menacing over-expansion," the survey proceeds: "Purchasing by dealers is still on a thoroughly conservative basis. If comments on 'hand-to-mouth' buying are less conspicuous in current reports than formerly, it is because the avoidance of inventory speculation has come to be regarded as a sound business policy, rather than a sign of uncertainty and hesitation. Moreover, it remains true that some of the clearest indications of active trade are in those lines which reflect the movement of goods into final consumption.

"Recent statistics reflecting the distribution of commodities continue the favorable comparisons which have become so familiar of late. Mail order and chain store sales remain well above 1924 levels. Sales of leading mail order houses in June were 3 per cent larger than in May and 13 per cent larger than in June last year, while chain store sales compared even more favorably with last year's figures, showing an increase of 16 per cent. For the first six months of 1925, combined sales of both classes of stores were nearly 12 per cent larger than in the first half of last year.

"Freight car loadings in the second week of July exceeded by 72,826 those of a year earlier. Although loadings two years ago were greater by 37,000 cars, loadings of merchandise and less-than-carload-lot freight, commonly regarded as an indication of the activity of commodity movements in general, were less than in this year's corresponding week by 12,358 cars. A similar comparison is shown in loadings of miscellaneous freight.

"So far this year loadings have numbered 26,144,889, which is the largest total ever recorded for a similar period. It is more than 5 per cent larger than last year's comparable figure, and about 1 per cent above that for 1923, the previous record. Since the beginning of March car loadings have been consistently above those last year, although for about two months the decreased movement of coal, ore and certain other products has held this year's totals below those of 1923.

"The tonnage figures also show larger freight traffic than last year. The Class I railroads reported 37,146,760,000 net ton-miles for May, or a volume of traffic 9.5 per cent greater than in May of last year. For the first five months of this year the corresponding increase was 2.3 per cent. Earnings have likewise advanced. Net operating income of these roads in May was $14,915,023 more than in the preceding May. For the first five months of this year earnings represented an annual return of 4.38 per cent on property investment, as against 4.27 for the corresponding period last year."

The mid-July letter of the First National Bank of Boston says: "Conditions in the paper and pulp industry although seasonally dull are better than a year ago. Sales are on a conservative basis and inquiries rather infrequent. Demand for news print, after some months of heavy volume, has shown a marked drop, which was to be anticipated at this time of year. Board and wrapping papers have also shown a considerable recession, but fine paper is holding up well. Prices for all grades of paper remain practically unchanged, and the announcement by a Canadian firm of a $5.00 reduction in news print effective January 1, 1926, has not been followed by similar action on the part of manufacturers in this country.

PUBLIC OPINION MUST FIGHT FOREST FIRES

Nearly 92,000 forest fires swept 29,000,000 acres of public and private lands during the calendar year 1924, according to a report just compiled by the Forest Service, United States Department of Agriculture. The actual money damage was $38,000,000 exculsive of damage to young growth, watershed protection, wild life, and recreational facilities.

The figures, say forestry officials, clearly reflect the bad forest fire conditions which prevailed last year, especially in many Southern States and in California. Compared with the calendar year 1923, the 1924 figures represent an increase of 24,000 fires, and compared with the 9-year average an increase of 45,000 fires, or nearly 100 per cent. In acreage swept by the flames the 1924 figures are only slightly larger than those for 1923, but are almost double the acreage figures representing the 9-year average.

Money damage in 1924, estimated at $38,000,000, is $10,000,000 above the 1923 estimate, and $18,000,0000 higher than the 9-year average $20,000,000. Damage to young growth, watershed pro-

tection, wild life, and recreational facilities, and losses to the lumber industry, including wages and other economic values, are not included.

William B. Greeley Chief of the Forest Service, states that the material increase in the number of forest fires reported during 1924 is partly the result of more complete reports, although 1924 was a very bad year in many sections of the country.

"Excessively dry weather was experienced in California and in the Gulf States," said Chief Forester Greele, "and in these States the 1924 fire figures show great increases over the 9-year average. Smaller increases are also shown in most other States."

An analysis of the 1924 statistics shows that incendiary fires top the list with 21,000, or about 23 per cent of the total. Brush burning comes next with 16,000 fires, or 18 per cent, and fires caused by smokers is third with 13,000, or about 14 per cent. Other chief causes of forest fires in 1924 were railroads, camp fires, lumbering, and lightning. Lightning is considered the only natural cause of forest fires. Only 6 per cent of the 1924 fires were started by lightning.

"The greatest single agency with which to combat forest fires," said Colonel Greeley, "is public opinion. No thoughtful citizen can read the 1924 figures without coming to the conclusion that the fight against forest fires is his personal fight. The Federal and State Governments are doing their utmost with the funds and equipment allotted to them. It is high time that a more eeffctive weapon is placed at their disposal, and that weapon is an outraged public opinion."

The figures given in the Forest Service report apply to all public and private lands in the United States and not merely to the National Forest areas under the jurisdiction of the United States Department of Agriculture. On these latter areas, which embrace 157,000,000 acres, the number of forest fires during 1924 totaled 8,247, the area swept by flames was 602,000 acres, and the money damage was estimated at $1,500,000.

Does Not Approve Sale of Uncas Paperboard Co.

[FROM OUR REGULAR CORRESPONDENT]

NORWICH, CONN., July 27, 1925.—The Uncas Paperboard Company plant in Thamesville will be run as usual by Frank W. Browning, receiver, who was recently extended time of receivership until the latter part of October, as Judge Allyn L. Brown stated in Superior Court here Tusday of last week, that the matter of sale would be held in abeyance until after the court convenes again in September.

This action was taken by the court when creditors of the company, whose claims aggregated $583,000, did not favor the sale under the price offered. The bids were low and would have amounted to about 30 cents on the dollar at the most. It was believed that it would be to the best interests of all that Receiver Frank W. Browning of Montville be allowed to continue running the plant and the two offers made, be turned down at this time.

Southern Cotton & Paper Co. Reorganizes

CHATTANOOGA, Tenn., July 27, 1925.—Reorganization of the Southern Cotton and Paper Company was effected at a meeting of stockholders followed by a meeting of newly elected directors held in Chattanooga Manufacturers Association headquarters last week. The new board of directors accepted the resignation of Mercer Reynolds, president, tendered several days ago, naming in his place D. Hewitt Wood, and John Chambliss, secretary.

Canadian Exports Show Increase

The regular report of the Canadian Pulp and Paper Association shows that the value of pulp and paper exports in June was $12,565,179, an increase of $113,512 over the value of $12,451,667 reported in May.

Exports of pulp in June were valued at $4,063,542 which was an appreciable increase over the previous month and was the second highest figure for the year.

Exports of paper declined somewhat from the May figures, being $8,501,637, compared with $8,883,503 in the previous month.

Details of the various grades of pulp and paper exported in June are given below, with the figures for June, 1924, for comparison.

	June, 1925		June, 1924	
	Tons	Value	Tons	Value
Pulp—				
Mechanical	27,858	$811,107	16,313	$510,451
Sulphate	11,579	706,077	11,510	668,767
Sulphite bleached	16,314	1,204,091	11,055	849,381
Sulphite unbleached	25,513	1,342,267	19,264	1,009,155
	81,264	$4,063,542	58,142	$3,037,754
Paper—				
News print	114,653	$7,859,268	95,717	$7,280,555
Wrapping	1,857	252,974	2,296	333,911
Books (cwts.)	3,054	26,965	1,230	7,983
Writing (cwts.)	903	7,564	970	9,970
All other	.....	354,866	.....	411,584
	.....	$8,501,637	.....	$8,044,003

For the first half of the current year there has been an increase in the value of pulp and paper exported of $4,200,824 over the first half of 1924. Of this amount, $2,453,856 is accounted for by the increased value of pulp exports and $1,746,969 by increased exports of paper.

As will be seen from the following table, there has been an appreciable increase in most of the grades of pulp and paper exported, particularly in mechanical and sulphite pulp and in news print and book paper.

	Six Months 1925		Six Months 1924	
	Tons	Value	Tons	Value
Pulp—				
Mechanical	135,650	$3,922,631	92,566	$3,111,813
Sulphate	71,089	4,373,755	75,409	4,441,001
Sulphite bleached	92,873	6,852,636	82,017	6,184,346
Sulphite unbleached	124,492	6,576,559	105,073	5,534,566
	424,104	$21,725,581	354,065	$19,271,726
Paper—				
News print	677,223	$47,741,382	605,285	$45,664,854
Wrapping	10,849	1,489,245	10,680	1,580,001
Book (cwts.)	16,110	147,822	9,547	76,011
Writing (cwts.)	5,619	49,501	7,270	76,921
All other	.....	2,170,299	.....	2,453,493
	.....	$51,598,249	.....	$49,851,280

Pulpwood exports increased in June to 134,062 cords valued at $1,449,326 compared with 95,065 cords valued at $931,883 exported in May. The first six months of the year has witnessed a considerable increase in our exports of pulpwood when compared with the first half of last year. To the end of June the pulpwood exported amounted to 768,988 cords valued at $7,421,524 while for the first half of 1924 the exports were 680,038 cords valued at $6,653,254. At the rate established during the first half of this year the export of pulpwood during 1925 will be well over 1,500,000 cords.

Swedish Wood Pulp Almost All Sold

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 29, 1925.—The wood pulp situation in Sweden remains practically unchanged with less than 20 per cent of the production unsold, according to a cablegram just received by the Paper Division of the Department of Commerce from Commercial Attache Klath at Stockholm. The cable further states that unfilled orders at paper mills are the lowest for the year and that the entire news print production is practically sold.

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Modified Soda **Special Alkali**

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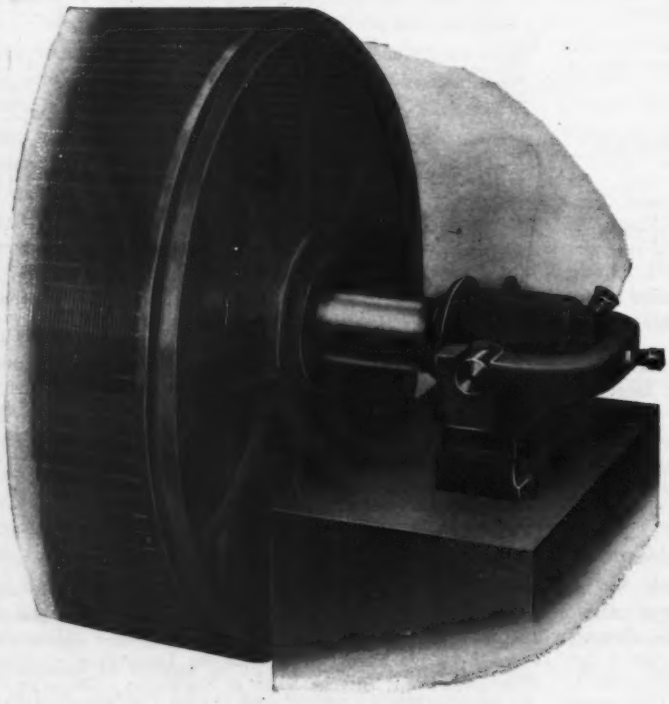

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AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.
Conducted by W.G. MacNAUGHTON, Secretary

The Effect of Light During Growth Upon the Cellulose Content of Red Spruce[1]

By George Jacob Druckerman[2]

The portion of cellulose in the wood of a species of tree is a variable item. The causes of variation are many and not all known. Two trees of similar character, age and condition, grown side by side, may show an appreciable difference in cellulose content, as determined by present methods. Further, blocks of wood cut from different parts of the same tree may vary as widely in cellulose content as blocks cut from two different trees. Johnsen and Hovey[3] have shown a marked increase in the per cent of cellulose from the central to the outer portions of the stem of a Balsam fir which they investigated.

It was believed by the author that the greatest differences are caused by the more strongly varying influences of age, health, and the various ecological factors, such as climate, soil, moisture and light. Upon these factors depends the growth of a tree. Two trees from similar seed, one grown in an impoverished soil, with a lack of sufficient moisture and under poor light, the other grown in an ideal environment of soil, moisture and light, will, it is evident, show a wide variation in growth. If we cut a cross-sectional disc from each of those trees at the same height above ground, we note that in the former the diameter of the hundredth annual ring may be only 6 inches, while in the latter it is 15 or 20 inches.

In what components of the wood is this difference in growth effected? A superficial examination shows that when growth is inhibited, all structures of the wood are inhibited more or less correspondingly. Actually, it is the number of unit cells that make up the various structures which is lessened. The size of each individual cell is not appreciably affected. It would also be interesting to know whether the actual relative composition of the wood material is affected when growth is inhibited by any causal factor, and if so, how much.

In spruce, over 50 per cent of the wood, by weight, is cellulose, and it is by far the most important single constituent. It was to determine what influence, if any, the factor light had upon the percentage cellulose composition in certain samples of red spruce, that the investigation described in this thesis was undertaken.

The influence of light particularly was studied, first, because of its readily discernible and remarkable influence upon growth, and second, because specimens from trees, differing, apparently, only in amount of light, under which they grew, could readily be obtained from the same locality.

Some of the general influences of light are noted in a paper by Zon,[4] of the United States Forest Service. Light is essential in the process of photosynthesis, by which plant material is built up from carbon dioxide of the air. The formation of chlorophyll in the plant leaf varies proportionately with the amount of light received, within certain limits. In a forest the amount of light largely determines the height to which individual trees grow. Some experiments reported by Zon show that isolated spruce trees receiving full light have a relative height (height divided by breast high diameter) of about forty while suppressed trees of the forest have a relative height of about one hundred thirty.

Spruce is one of the most tolerant of trees. It can exist and grow in a minimum of light. Moreover, it has a remarkable facility to recover, when released from suppression. A tree which has grown but two inches in diameter within a hundred years of shaded growth, is capable of doubling its diameter within ten or fifteen years if the surrounding cover be removed and light admitted. This fact provides opportunity for comparing within the same tree the cellulose content of wood grown under shaded conditions with that of wood grown in the open.

Source of Material

Samples of red spruce were secured from several different sections of its range. These samples were taken from trees which were grown in localities of similar or closely similar site qualities, in order that the conditions of soil and moisture might be as nearly identical as possible. The samples were sections cut from the bole at breast height. They were obtained by foresters engaged in lumbering operation in different sections of the eastern states for Professor A. B. Recknagel of this University, and by his courtesy were made available to the author.

In certain of the cases in which a comparison was to be made the samples were taken from two or more individual trees which had grown in proximity but under different light conditions. In other cases the samples to be compared were taken from a single tree which had had a varied life. In such cases, the single tree had started growth under suppression and had later been released, or had started as a free growing tree and had later been suppressed.

[1] A thesis presented to the faculty of the graduate school of Cornell University for the degree of Master of Science.
[2] Chemical engineer Kimberly-Clark Company, Niagara, Wis.
[3] Johnsen and Hovey, Jour. Soc. Chem. Ind., 37, 132 T (1918).
[4] Zon, Raphael, U. S. Department Agr. Forest Service Bulletin 92.

In all, ten sets of samples were received. Of these, four were selected as suitable for use in this investigation.

Determination of Cellulose

For the determination of the cellulose content of these samples it was chosen to follow the method of Cross and Bevan[5] as modified by Renker.[6] This method consists in the alternate treatment of the material with chlorine gas and sodium sulphite solution, with the object of first hydrolyzing the lignocellulose and then dissolving the chlorinated lignin. The residue which remains is weighed as cellulose.

All of the methods which have been described for the determination of cellulose are unsatisfactory in that either the non-cellulose materials are not completely removed, or the cellulose itself is attacked. However, investigators and authorities are agreed that the chlorination method of Cross and Bevan is the most satisfactory as the manipulation is relatively simple and the results which it gives are consistent.

For the purpose of this investigation the following details of procedure taken from published descriptions of the application of this method were adopted.

The sample block of wood was reduced with a 12-inch wood rasp until approximately 15 grams of raspings were obtained. These

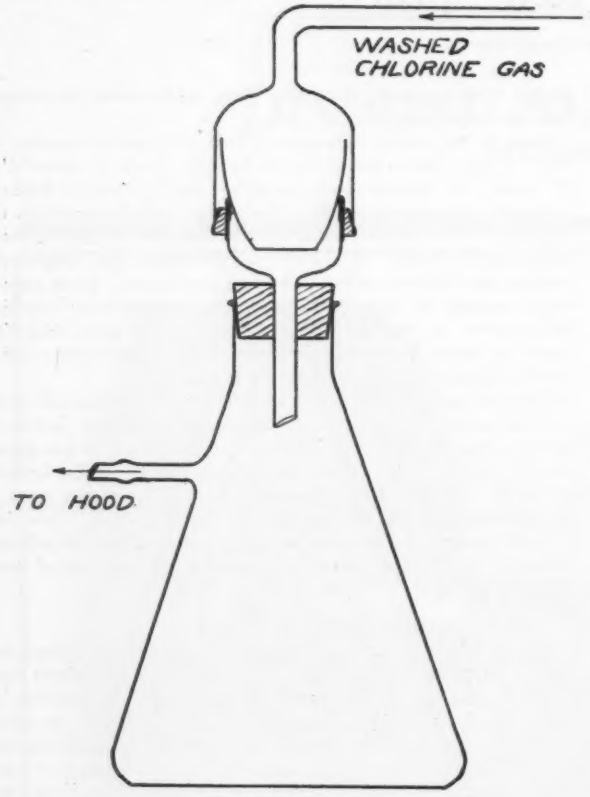


FIG. 1.

were sifted in a combination of sieves of 60 and 100 meshes to the inch. The material retained on the 100 mesh sieve was weighed and found to be approximately 20 per cent of the total raspings. The material retained on the 60-mesh sieve was ground in a mortar and resifted. An additional 20 per cent was obtained in this way, making a total of from 5 to 6 grams of material.

This was placed in a glass-stoppered weighing bottle and two 1-gram samples removed for chlorination. The remainder in the weighing bottle was placed in an oven at 100°C and dried over night. The difference in weight between the air dry and oven dry material was calculated to per cent moisture, and the weights of the two samples which had been removed for chlorination were reduced to dry basis.

The two 1-gram samples were then transferred to weighed alundum filtering crucibles. These crucibles were placed in soxhlet

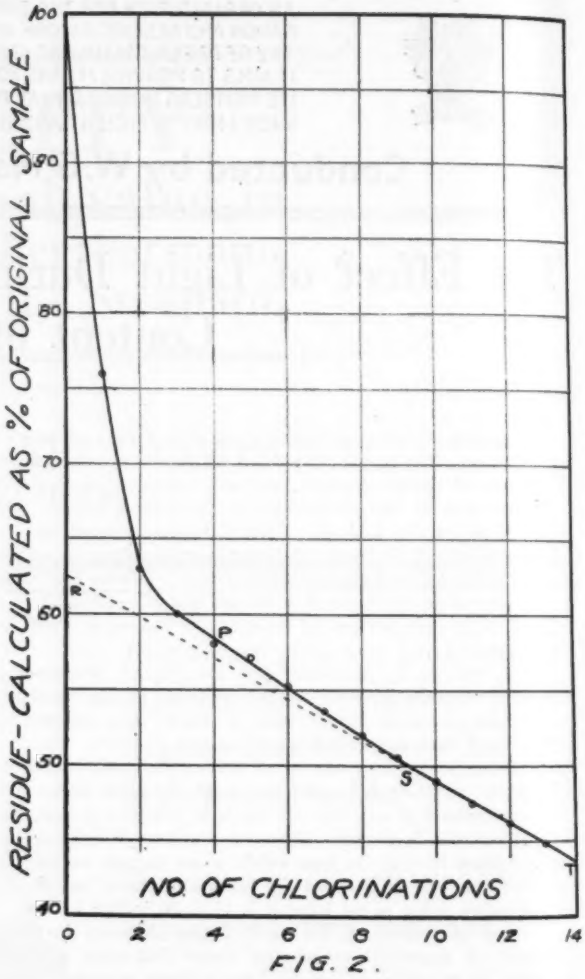


FIG. 2.

extractors and extracted for two hours with a minimum boiling-point mixture of alcohol and benzene to remove waxes and resins. In order to remove adhering benzene and alcohol from the fibers the crucibles were heated in a water bath until no benzene or alcohol could be detected in the vapors driven off.

The crucibles were then set in place in the chlorination apparatus shown in Fig. 1, and a slow stream of washed chlorine gas was passed through the apparatus for 20 minutes. The fibers were then washed with 150 cc. of hot water.

The crucible containing the fibers was next placed in a 300 cc. beaker containing 50 cc. of a 3 per cent sodium sulphite solution. This beaker was then heated in a water bath for 45 minutes. Upon the completion of this treatment, the crucible was returned to the gooch funnel of the chlorinating apparatus and washed with 200 cc. of hot water.

The chlorination, followed by treatment with sodium sulphite solution, was repeated three times, so that four chlorinations were

[5]Cross and Bevan, Cellulose 95 (1895).
[6]Dore, Jour. Ind. and Eng. Chem., *12*, 264 (1920).

made in all. The times of the second, third and fourth chlorinations were 15, 15 and 10 minutes respectively.

After the final washing the crucibles were transferred to weighing bottles, dried over night in an oven at 100°C and weighed. The weight of the residue remaining in the crucibles at this point was taken as the cellulose content of the sample.

Time and Number of Chlorinations

There are two points in the application of the method of Cross and Bevan for cellulose which have lately been under discussion. The first is the length of time of the individual chlorination period; the second is the number of times the chlorination treatment should be repeated. In regard to the first point Ritter and Fleck[7] have shown that the result of the use of long periods of chlorination such as 15 minutes is not different from the result of the use of short periods, such as 5 minutes.

While there is perhaps some question as to just how short the time may be made, investigators are fairly well agreed that a length of time of from 15 to 20 minutes is sufficient. In regard to the second point, however, there is a lack of agreement, even of this sort. No one seems to be prepared to state what may be a proper number of chlorinations. Each investigator continues to chlorinate until all the lignin, as far as he can determine, is removed. This point is indicated generally by a lack of coloration upon the addition of the sodium sulphite solution. It is believed by the author, that, when this point has been reached a considerable part of the cellulose itself has been attacked. He therefore decided to apply the method outlined above (four chlorination periods of 20, 15, 15 and 10 minutes respectively) to two saamples, drying and weighing after each period in order to determine how rapidly the wood fiber was attacked. The results obtained are shown in Fig. 1.

TABLE 1

Number of Chlorinations	Time, min.	Residue (calculated as % of original sample) 1	2
0	..	100.00	100.00
1	20	76.00	75.63
2	15	63.04	63.55
3	15	60.07	60.59
4	10	58.77	59.39

These results prompted the author to continue the treatment with chlorine in the expectation that a point would be reached at which the loss in weight of the sample between chlorinations disappeared, or approached a small constant value. The number of chlorinations was therefore carried to fourteen. The crucible and contents were dried and weighed at the end of each chlorination as before. The results are given in Fig. 2.

TABLE 2

Number of Chlorinations	Time, min.	Residue (calculated as % of original sample) 1	2
5	10	57.17	57.79
6	10	55.32	56.03
7	10	53.68	54.49
8	10	52.26	53.43
9	10	50.47	51.61
10	10	49.03	50.28
11	10	47.40	48.45
12	10	46.24	47.44
13	10	44.90	46.10
14	10	43.74	44.76

The results tabulated are plotted in the curves shown in Figs. 2 and 3. This graphical representation of the results shows that the loss in weight between chlorinations decreases at first rapidly and then more slowly to a constant value. This value is seen to be approximately 1½ per cent of the weight of the original sample.

Loss in Weight Explained

The loss in weight shown by the curves evidently is due to removal of lignin on the one hand and cellulose on the other. The form of the curves may be interpreted as follows: the first portion of the curve ending at a point between the second and third chlorinations covers a loss in weight of the sample due chiefly to the removal of lignin. From this point to the point S the loss is due to removal of lignin and to the destruction of cellulose. From S to T, the rate of loss is constant, which the author believes indicates that it is due to the destruction of cellulose alone.

It might seem advisable then that the chlorination should be stopped at the second, or at any rate, the third period in order to prevent the loss of cellulose during subsequent chlorination, but there is still present at these points a considerable quantity of the lignous material. This raises the question as to whether the removal of this last part of the lignin warrants the loss of cellulose involved.

Schorger[8] contends, that in obtaining cellulose absolutely free from lignin the error involved by destruction of the cellulose is out of all proportion to that caused by the presence of the small amount of lignin.

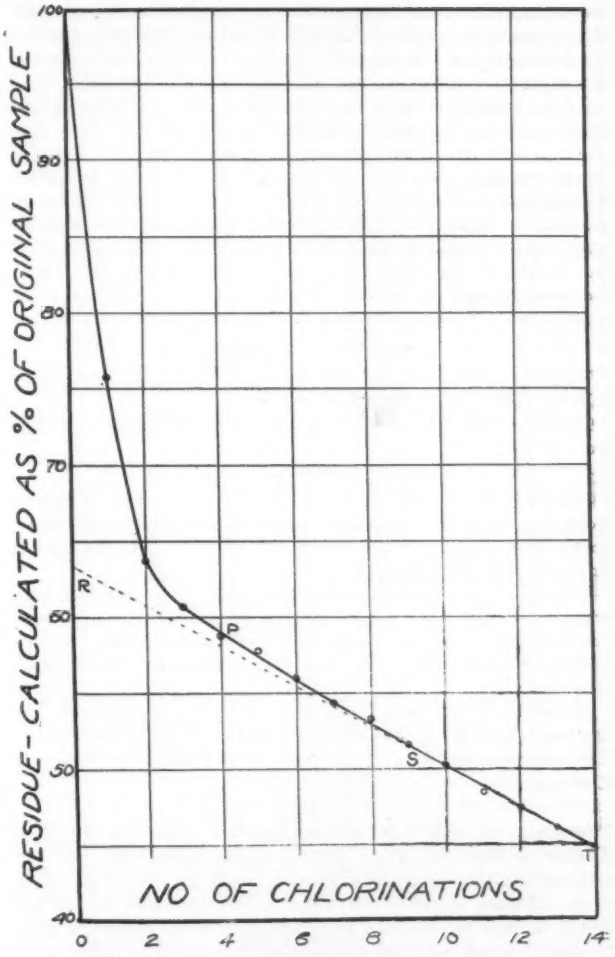


FIG. 3.

With this view Johnsen and Hovey[9] are in disagreement.

Cross and Bevan claimed that lignone chloride is formed in chlorination and that this acts as a protective covering for the cellulose fiber preventing its oxidation.

It would seem, however, that as the amount of lignin is diminshed during the procedure, its power of protection would likewise be diminished.

Heuser and Sieber[10] conducted some experiments on spruce in

[7]Ritter and Fleck, Jour. Ind. Eng. Chem., 16, 147 (1924).

[8]Schorger, Jour. Ind. Eng. Chem., 9, 556 (1917).
[9]Johnsen and Hovey, Jour. Soc. Chem. Ind., 37, 132 T (1918).
[10]Heuser and Sieber, A. Z. Angew, Chemie, 26, 801 (1913).

which they attempted to show that all the lignin could be removed by the chlorination process without any oxidation of cellulose. They used methylene blue to test for the presence of oxycellulose, which, they say, is formed to some extent if the chlorine gas is allowed to act upon the cellulose residue for any length of time after the lignin has been removed.

No such clearly defined end point in the removal of lignin as Heuser and Sieber infer exists, is discernible in the author's data plotted in Figs. 2 and 3. Moreover, since the curves indicate so marked and constant an attack of the cellulose after lignin is removed, it seems probably that there is an appreciable attack of cellulose during the removal of the lignin.

If the straight lines ST of the curves be prolonged to cut the axis of ordinates, an intercept of 62.5 per cent is obtained in Fig. 2 and an intercept of 63.0 per cent in Fig. 3. These values may more closely represent the actual cellulose percentage in each case than those given by the points chosen at P, following on four chlorinations. At Just what point on the curve the true cellulose content is given is a matter of conjecture in the present state of our knowledge.

If the assumption could be made that the rate of attack of the cellulose itself is the same during the time in which lignin is present as it is after the lignin has been removed, then these intercepts would represent the actual cellulose content of the wood. Since this assumption is probably not justified and because it would not be practical to make the large number of chlorinations required to obtain this intercept in the case of each sample to be analyzed, it was decided to apply the method as originally outlined and to take the result obtained at the end of four chlorinations as a basis for comparison of cellulose content.

Description of Specimens

The groups of specimens over which it was chosen to compare cellulose content are described below.

Roman numerals in the description represent discs from individual trees.

Group 1.

Specimens I and II were obtained from the mountains of eastern Tennessee, from an uneven-aged virgin forest composed mostly of spruce, some Fraser fir and a few yellow birch. The site quality was estimated to be about II.

Specimen I was from a very good example of a dominant tree, which had maintained a uniform healthy growth throughout its life and had reached a diameter of seven inches inside the bark within the thirty years of its life. An average radial inch included 8 annual rings.

Specimens II was from a tree that had been overtopped and had attained a growth of but 5⅛ inches inside the bark in 53 years. The number of annual rings per inch on the section cut from this disc was thirty.

Group 2.

Specimen IV was from a much cut-over section in the Cass Region of West Virginia. The tree from which this disc had been cut had suffered from suppression during the first ninety years of its existence, attaining a diameter of but two inches in that interval. It was then released and gained 1½ inches within the next 15 years. There followed another 20 year period of suppression during which the diameter was increased by only ¾ of an inch. After this period, the surrounding cover was removed during a lumber cut, and the tree which in 125 years had grown only 4¼ inches diameter more than doubled this growth in the last 31 years of its life.

Four blocks were cut from this disc as follows:
A—Including the first 90 rings.
B—From sections showing the second suppressed period—42 rings per inch.
C—From section showing the second free growth period—10 rings per inch.
D—Same as C but from different sector of disc. Yield should be alike.

Group 3.

Specimens VI and VII were from the spruce slopes of the Adirondacks.

Specimen VI was from a tree which had grown in comparatively favorable light conditions and the sample cut from it contained on an average 16 rings per inch.

Specimen VII represented a tree which had grown under suppression and showed a growth of 41 rings to the inch.

Group 4.

Specimen X was from Coos County, New Hampshire. The history of this tree is somewhat similar to that of No. IV, except that it is more pronounced. There was contained in the same disc ideal material for comparison, having two periods of suppression and two of open growth. It was a 200 year old specimen with a diameter inside the bark of 14¾ inches.

Four samples were cut from it as follows:
A—From within the first 100 annual rings and containing an average of 80 rings to the radial inch.
B—From the first period of open growth—17 rings per inch.
C—From second suppressed period—52 rings to the inch.
D—From final open growth period—9 rings to the inch.

Results of Determinations

The following table shows the results of determinations for cellulose content made upon the above specimens:

Table 3

Results of determinations for cellulose per cent in samples of red spruce grown under varying light conditions.
(Arranged by groups and by highest yields)

Number and source	Condition of growth	Rings per inch	Part of disc from which sample cut	Cellulose per cent (average)
		Group 1.		
II Tenn.	Suppressed	30	Outer	58.68
I Tenn.	Open	8	Central	58.60
		Group 2.		
IV-B W. Va.	Suppressed	42	Central	58.95
IV-A " "	Suppressed	90	Inner	58.12
IV-D " "	Open	22	Outer	57.95
IV-C " "	Open	22	Outer	57.48
		Group 3.		
VII. N. Y.	Suppressed	41	Central	58.99
VI. " "	Open	16	Central	57.45
		Group 4.		
X-D N. H.	Open	9	Central	58.47
X-B " "	Open	17	Central	58.15
X-A " "	Suppressed	80	Inner	58.01
X-C " "	Suppressed	52	Central	57.56

In a study of the results in the above table, the following points may be noted.

(1) In 3 of the 4 groups of samples listed, those which were taken from suppressed trees lead in cellulose content. However, these differences in yield vary from 1.54 per cent in group 3 to as little as 0.08 per cent in group 1.

(2) There is no definite relation between the degree of suppression and the differences in cellulose content. In group 1—sample II has 3.7 times as many annual rings per inch as sample I and a lead in cellulose percentage of only 0.08, while in group 3—sample VII has but 2.6 times as many rings per inch and a lead in cellulose percentage of 1.54. Similarly in group 2—sample IV-A with 90 rings per inch yielded 0.83 per cent less cellulose than sample IV-B with 42 rings to the inch.

(3) The difference between the two suppressed specimens in group 2 (0.83) is approximately the same as the difference between the average of the suppressed specimens and the average of the open specimens in that group (0.82). Moreover, the advantage of the suppressed specimens in group 2 (0.82) is only slightly greater than the advantage of the open specimens in group 4 (0.53).

With these facts in mind, the only conclusion to draw from the data presented is that the variation in the amount of light under which the wood was produced had no appreciable effect upon its respective cellulose content.

The table indicates that cellulose content within a single tree may vary as much or more than cellulose content of two different trees.

On the whole the results show a fairly uniform percentage of cellulose in red spruce, considering the widely varying locations and light conditions in which the trees examined had grown.

The average cellulose content of all the specimens examined is 58.20 per cent.

Summary

1. Specimens of red spruce (*Picea rubens*) from different localities were examined for possible differences in cellulose content caused by differences in light conditions during growth.

In some cases specimens were compared which had been taken from two different trees grown in the same locality but under different light conditions. In other cases specimens were compared which had been taken from a single tree that had grown part of its life in the open and part in the shade.

The results obtained show that there is no appreciable difference in cellulose content between wood of Red Spruce grown in the open and that grown under suppression.

2. In the examination of these specimens for cellulose content, the method of Cross and Bevan as modified by Renker was used. It was found that in the application of this method to wood, chlorine attacks cellulose at a definite rate after lignin has been removed.

If the number of chlorinations is made large enough this rate reaches a constant value which may possibly serve as an indication of the true cellulose content.

Pulp Board Problem

SPECIAL INQUIRY No. 30.

A member writes: "The pulp board we make is 100 per cent groundwood, from jack pine; sizing about 1½ per cent dry size and 3 to 4 per cent alum. It is dried to 1½ to 2 per cent moisture content and wound into rolls 8 feet long, 6 feet in diameter, and stored until needed. Some of the rolls, when unwound after several weeks in storage, are still warm in the center where the board has a discolored, scorched appearance and is quite brittle. The discolored board when moistened has a distinctly burned odor. The "scorched" area occurs principally within two feet either side of the center of the roll and extends a foot or so outward from the core.

"Experiments showed that the temperature of the board when wound into rolls was about 185 degrees Fahr.

"The only possible causes for the condition that occurred to us are either over-drying or from traces of muriatic acid used to clean the cylinder wires.

"We would appreciate knowing if others have had a similar experience and in having suggestions as to the cause and means of prevention."

This inquiry will be handled as usual under the "Service to Members" plan. Those who participate in the discussion will receive a transcript of the replies. On request a sample of the normal as well as the "scorched" board will be sent.

Address W. G. MacNaughton, Secretary, Technical Association of the Pulp and Paper Industry, 18 East Forty-first Street, New York, N. Y.

May Endorse Tissue Simplification

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 29, 1925.—It is understood from information received here that at the meeting of the National Paper Trade Association in October the membership will be asked to endorse the simplified program of tissue paper adopted recently by the Tissue Paper Manufacturers Association. The program, of course, will not become effective until after a general conference has been held and the program has been approved by the trade as a whole. H. R. Colwell, of the Simplified Practice Division, Department of Commerce, is in charge of this work for the department.

The Measurement of the Translucency of Paper

BY C. FRANK SAMMET, CRANE & CO., INC., DALTON, MASS.

In 1912, *the author adapted the Ives Tint Photometer to the measurement of the translucency of paper. Since then a new type of the Ives instrument has appeared which, although different in construction, may be quite as well adapted to the measurement of translucency as the previous type.

When a paper is placed over a white surface, the luminosity observed is composed of the light reflected from the surface of the paper plus that which is reflected from the surface underneath. When a paper is placed on a black surface, the luminosity is that of the light reflected from the surface of the paper only, as the transmitted light has been absorbed. The difference of the values which measure these two effects gives an expression for the light transmitted, and therefore for the translucency of the paper.

To adapt the new instrument to this measurement, it is only necessary to replace the right hand white field with a black field. This black field consists of a pasteboard box about 2½ x 2½ and 3½ inches high, blackened on the inside, and in the top is a hole about 1½ inches in diameter. The paper is placed over this black hole and held down flat with a metal frame.

Over the other field, which consists of a white magnesia block, is placed another piece of the same paper. This also must be held firmly against the magnesia block by means of a frame. Close contact of the paper with the block is essential to prevent variations in reading.

In viewing these two fields in the instrument, through a green glass which makes the matching less fatiguing to the eye, we find that the left field is brighter than the right, due to the light reflected from the surface of the paper plus that reflected from the white background underneath. The other field is darker because the transmitted light has been absorbed by the black background. This difference in intensity is measured by reducing the light entering the left field by means of a shutter until the fields match. This shutter is operated with a lever, over a millimeter scale that reads from zero to 100.

The reading obtained is taken as a measure of the translucency of the paper and the average of five tests can be duplicated within one scale division making the instrument sufficiently accurate for all practical purposes.

*U. S. Dept. Agric. Cir. 96, 1912.

Big Chemical Dinner During Exposition Week

A chemical industry dinner with twelve hundred in attendance and with General Pershing as the chief speaker, is being planned to be held in New York during the week of the Chemical Exposition, September 28 to October 3. The Chemical Warfare Service Association, of which Dr. Charles H. Herty is president, has inaugurated the movement and has sent invitations to other chemical associations to join with the Chemical Warfare Service group in the dinner. Dr. Frederick Zinsser is chairman of the committee in charge.

The early plans of the committee aim to concentrate many of the smaller individual dinners of associations and groups held in New York at the time of the Chemical Exposition, into a large reunion of all American chemical interests. It is believed that the Salesmen's Association of the American Chemical Industry, which has held invitation dinners at previous expositions, the Chemists' Club, the local section of the Chemical Society, and numerous other organizations will join with the Chemical Warfare Service Association in the banquet plans.

Combined attendance of all the groups and associations which will probably co-operate, will mean over twelve hundred guests at the dinner, according to conservative estimates. This would mean the largest gathering of its kind ever held by chemical interests in this country, and would likely become a regular institution as a chemical industry reunion at future holding of the Chemical Exposition.

Cotton Stalks As Paper-Making Material*

By Merle B. Shaw[1], George W. Bicking[2], and Raymond R. Rumsey[3]

Introduction

The number of acres of cotton harvested in the United States in 1924 was 41,360,000. The yield of stalks is estimated at 1,000 pounds an acre. This enormous supply of raw material is largely a waste product at the present time. Because of their large quantity, cotton stalks were among the first wastes of cultivated crops reduced to pulp and the question of utilizing them in the production of paper has frequently been considered since. Previous tests by the Bureau of Standards, as well as other investigators, have indicated that this material is unsuitable for paper, but, owing to numerous inquiries concerning such use, additional tests on its papermaking properties have been made.

Description of Material

The cotton stalks supplied for the papermaking tests were shredded before shipments in a patented harvesting and shredding machine. Neither the construction and operation of this machine nor the losses occurring in the processes employed were stated. The results reported herein are on the shredded stalks, no other treatment having been given the material.

Papermaking Equipment

The pulping and papermaking tests were made on both laboratory and semi-commercial scale.

The apparatus employed in the laboratory experiments consisted of a small rotary boiler, a ½-pound beater, and a fiber sheet mold. Inasmuch as this equipment has previously been fully described and illustrated, the reader is referred to the earlier papers for details of construction and manipulation.[1] An open boiler was also employed for part of the work.

The semi-commercial tests were conducted under practical mill conditions. The usual type of rotary boiler was employed in the preparation of the stock and the following equipment was used in making the paper: An iron tub beater; a small jordan with iron bars; a 4-plate screen; and a 29-inch fourdrinier machine with wire 33 feet long and having two presses, nine 15-inch driers, a small machine stack of seven rolls, and a reel.

Papermaking Tests

Preliminary bleaching tests demonstrated the unfitness of cotton stalks for bleached papers because of the excessive amount of bleach required and the character of the paper produced. The stalks contain particles that fail to bleach and show in the finished paper as small brown specks. The following tests were, therefore, confined to the production of unbleached papers.

1. *Laboratory*

Samples were taken of the material as received for determination of moisture content. The stalks were cooked with soda ash, lime, and caustic soda, respectively, in the experimental rotary boiler. The resultant pulp was then washed, beaten, and made into sheets (on the sheet mold) in the usual way.

The results of the tests are given in the following table. (Table 1). The caustic soda was expressed in terms of sodium carbonate, the soda ash was a commercial product containing about 56 per cent of sodium oxide, and the lime was freshly burned and contained about 85 per cent of calcium oxide. "Chemicals in cooking liquor" and "Yield of bone-dry pulp" are based on the bone-dry weight of the material as received. The last two columns, except for test No. 6 (see "2. Semi-commercial tests"), have been converted to a 150-pound weight basis for direct comparison, actual weight differing little from the converted weight. Measurements (a) and (b), in "Physical tests on finished paper" are for different beater treatments of the same stock. Test (a) received 45 minutes beating; test (b) received 80 minutes, the fibers in the latter case thus being reduced to a condition permitting better felting in the sheet.

To determine whether the shredding of the cotton stalks prepared the fiber for treatment similarly to that ordinarily given groundwood pulp, two beating tests were made on the material as received. The paper produced lacked strength and its unsatisfactory quality indicated the necessity of cooking the stalks, preparatory to making the paper.

A number of digestions or "cooks" were then made. The first was made in an open boiler and was a mild digestion process.

TABLE I.

Results of papermmaking tests on cotton stalks.

Test number	Chemicals in cooking liquor: Kind	Amount[1]. Per cent	Yield of bone-dry pulp[1]. Per cent	Physical tests on finished paper[2]: Weight, 25x40-500. Pounds	Bursting strength. Points	Ratio x 100 bursting strength to weight, 25x40-500. Per cent
1	Soda ash.....	25	67.0	(a) 150	39.8	26.6
				(b) 150	60.7	40.5
2	Lime	25	61.1	(a) 150	27.5	18.3
				(b) 150	41.2	27.4
3	Caustic soda.....	10	55.0	(a) 150	36.0	24.0
				(b) 150	61.2	40.8
4	Caustic soda.....	25	40.7	(a) 150	63.4	42.2
				(b) 150	97.3	64.9
5	Caustic soda.....	30	37.1	(a) 150	64.6	43.0
				(b) 150	91.0	60.6
6	Caustic soda.....	25	36.0	47.5	16.0	33.7

[1] On bone-dry weight of stalks.
[2] (a) Received 45 minutes beating; (b) 80 minutes.

Twenty-five per cent of soda ash was added and the cooking time was 4½ hours. The yield of fiber was 67 per cent but the pulp was raw and the quality of the paper poor.

A sample of the material was cooked with 25 per cent of lime, in the small rotary boiler for 8½ hours, at 340° F. temperature and 128 pounds pressure. The yield was 61.1 per cent and the stock handled better than the soda ash cook but was still raw. These results indicated that more severe treatment is required to reduce the fiber to pulp suitable for the usual paper-making operations.

Two 5-hour cooks were made, one with 10 per cent and the other with 25 per cent of caustic soda, the temperature and pressure being the same as for the lime cook. The yields of pulp were 55 per cent and 40.7 per cent, respectively. The paper was superior in strength to that from the previous cooks and the stock was more easily handled but the paper was much darker in color.

The final test in the experimental boiler was with 30 per cent of caustic soda, cooking for 10 hours at the same temperature and pressure as the other caustic cooks. The yield was 37.1 per cent and the paper was fair in quality.

2. *Semi-Commercial*

In order to prepare a sufficient quantity of pulp for a paper-machine run, a cook was made in the semi-commercial rotary boiler. Caustic soda was added, the proportion being 25 per cent of the weight of the stalks. The time during which steam was admitted to the boiler was 7½ hours but the stock was permitted to remain in the hot cooking liquor over night, thus making the treatment

[1] Assistant Technologist.
[2] Paper Maker.
[3] Assistant Paper Maker.

*Published by permission of the Director of the National Bureau of Standards of the U. S. Department of Commerce.

[1] "Caroa Fiber as Papermaking Material," by Merle B. Shaw and Raymond R. Rumsey; Paper Trade Journal, Vol. 80, No. 2, pp. 47-49, January 8, 1925. "Method of Making Uniform Fiber Sheets for Test Purposes," by Merle B. Shaw and George W. Bicking; Paper Trade Journal, Vol. 79, No. 21, pp. 51-53, Nov. 20, 1924.

equivalent to probably 15 hours of cooking. The yield of pulp was 36 per cent. The paper making proceeded according to the usual methods, 2 per cent of rosin size being added during the beating process.

Owing to the small amount of material available, the paper was made much lighter in weight than that of the laboratory tests. The strength test results were, therefore, not converted to the 150-pound weight basis as the strength of papers widely different in weight is not exactly proportional to the weight.

Summary and Conclusions

Previous tests having demonstrated the unfitness of cotton stalks for the manufacture of fine papers, the present investigation was confined primarily to their use in the production of unbleached paper.

Pulping and papermaking tests were made on both laboratory and semi-commercial scale. The material was found to require severe chemical treatment and relatively long cooking for reduction to pulp. The yield of fiber was fairly good, being 35 to 40 per cent of the weight of the shredded stalks, but the paper produced was deficient in strength and of poor appearance, being suitable only for low grade wrapping or board.

Straws of cereal plants yield as much fiber as cotton stalks and the paper produced has better strength. The available quantity of these straws is estimated to exceed that of cotton stalks and some mills are at present using these materials in the production of paper board. These straws have the advantage of being already collected for other purposes, while the collecting of cotton stalks is an additional operation required, which increases their cost as a papermaking material.

On the basis of cost of collection, quality of paper produced, and yield of fiber obtained, the results reported herein indicate that making paper from cotton stalks by the usual papermaking methods is not commercially feasible.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Making Industry

Clarence J. West, Chairman

Sulphite Process

Fermenting Sulphite Waste Liquor. A. Romer. U. S. pat. 1,510,196, Sept. 30, 1924. In the continuous fermentation of sulphite waste liquor to produce alcohol or other products, the liquor to be fermented is passed through a number of vessels connected in series, each of which contains discrete masses of fixed yeast which may be associated with a carrier such as kieselguhr. The flow of the solution is controlled so that it remains in contact with the yeast masses a sufficient time to effect the desired fermentation. —A. P.-C.

Combustion of Waste Sulphite Liquor. Pradel. *Papierfabr.* 22, 517-519 (Nov. 2, 1924). Essentially a review of German patents covering the combustion of waste sulphite liquor.—J. L. P.

Experiments with the Combustion of Concentrated Waste Sulphite Liquor. E. Eisenbeiss. *Papierfabr.* 22, 108-114 (June 17, 1924). The continuous use of concentrated waste sulphite liquor as a fuel is described. The article is illustrated with drawings and photographs of the fire-box mechanism.—J. L. P.

Method of Burning Sulphite Waste Liquor. E. Eisenbeiss. U. S. pat. 1,494,468, May 20, 1924. A jet of sulphite waste liquor to be burned in a furnace is introduced continuously into the furnace (which may have a traveling grate) at the opposite end to that into which a main fuel supply is charged, and countercurrent to the latter. The jet supplies auxiliary fuel over the entire grate area.—A. P.-C.

Utilization of Sulphite Waste Liquor. A. F. Hoffman. U. S. pat. 1,495,074, May 20, 1924. A lubricant containing sulphite (or other cellulose) waste liquor (which may be neutralized) is employed for lubricating cutting tools, e.g., those used for drilling or cutting threads in metals.—A. P.-C.

Alkaline Process

Continuous Pulping Process. A. Olier, assignor to Societe Anonyme des Etablissements A. Olier. U. S. pat. 1,595,934, Aug. 19, 1924. The patent specifies apparatus and process for the continuous pulping of wood or of grasses, straws, etc., so designed that the various operations, including dusting, cooking, beating and bleaching, with washings wherever necessary, are accomplished automatically and continuously, without any intermediate manipulations between the admission of the raw material and the delivery of the finished pulp. (Complete description in *Paper* 35, 227-231, Nov. 27, 1924).—A. P.-C.

Physical Chemistry of Alkaline Wood Pulping Processes. *Svensk Pappers-Tid.* (May 31, 1924); *Pulp & Paper* 23, 91-92, 113 (Jan. 22, 1925). Calculation of data on solubility in caustic soda, sodium sulphite and sulphate liquor solutions of sawdust indicate that the reactions are monomolecular. The influence of temperature is formular. The reaction constant depends on the concentration of the solution. With caustic soda solutions at 140° C., solution of incrustants is 28 times as rapid as solution of cellulose; at 170° C. it is 8.7 times as fast. At 270° C. the rates are equal. With sodium sulphide and sulphate liquor solution of incrustants is greater while solution of cellulose is less. For this reason, sulphate liquor gives a stronger product than caustic soda. —A. P.-C.

Pulp from Peat. R. Runkel. Eng. pat. 225,954. The fibers are loosened with water and then submitted to the action of an alkaline solution to which a stream of chlorine and a stream of soda liquor is admitted at intervals. The chlorine acting on the alkaline produces hyperchlorite of soda and nascent oxygen, which exert a powerful action on the fiber toward producing white cellulose.—A. P.-C.

Cooking Plants with a Mixture of Lime and of Sodium Sulphate. M. Brot and H. Men. *Papier* 27, 1123-1129 (Oct. 1924). Experiments were carried out with a 250 cc. steel autoclave, heated externally in an air oven which could be heated to 200° C. and regulated to about ± 2°. Tests were carried out at a maximum temperature of 180° to 185° C., corresponding to a pressure of 10 kilos (about 130 to 135 lb. per sq. in.), as cellulose begins to decompose with evolution of gaseous decomposition products at about 200° C. Cooking lasted 2 hr. Treating 10 g. of high grade rye straw (cellulose content on dry basis 50%) with 3 g. of high grade quicklime gave a yield of 66.5%, duplicates agreeing within 1% with careful temperature control. Treating 10 g. of straw with 3 g. of quicklime and 5-120 g. of Glauber's salt ($Na_2SO_4.10H_2O$) gave yields of 63 to 40%, with minimum of 38% with 80 g., showing that presence of a large excess of sodium sulphate tends to decrease somewhat the action of the caustic soda formed at high temperatures by action of the lime on the Glauber's salt. Presence of a small quantity of calcium sulphate does not interfere. On the whole, the pulps are very difficult to bleach by the usual procedure. Comparative tests with lime and soda ash, and with caustic soda alone showed that equivalent results were obtained with 3 g. of lime and 20 g. of Glauber's salt (55.5% yield), 3 g. of lime and 0.7 g. soda ash (56.5% yield, and 1.45 g. of 70%

caustic soda (55% yield). Increasing the cooking pressure from 160 mm. (absolute) to 10 kilos (gage) decreased the yield from 90% to 41.5%. Commercial tests would probably give a much easier bleaching pulp, because of higher concentration of the cooking liquors than could be obtained in the laboratory tests. Commercial application of the process would require an abundant supply of very cheap sodium sulphate.—A. P.-C.

Production of Textile Fibers and Pulp from Nettles, Jute, Reeds, Etc. C. A. Braun. Ger. pat. 401,124; addition to 388,998. *Papierfabr.* 22, 443-444 (Sept. 21, 1924). The cominuted plant material is treated with mixtures of alkali carbonates or caustic alkalies, and alkali or alkaline-earth sulphites, in a digester under pressure up to 176° C. The reaction between the alkali carbonates or hydroxides and the alkaline-earth sulphites, takes place outside the digester by circulation of the former through a filter charged with the alkaline-earth sulphites.—J. L. P.

New Processes for Cooking of Straw and Reeds. Altmann. *Papierfabr.* 22, 558 (Nov. 23, 1924). A brief review of the disintegration processes for straw and reed fibrous materials. Neither the Opfermann alkaline process, the Krais nitric acid method, the process of disintegration without chemicals of the Berlin-Dahlem Materials Testing Station, nor the process of digestion with magnesium chloride have been very successful as applied to straw, etc. Using 19% sodium hydroxide and 8% chloride of lime the Berlin-Dahlem Station produced a bleached pulp from reeds with a yield of 35%. Paper made from this pulp tested 8200 m. tearing length, 4.7% stretch, and an average folding endurance of 2,000, which values are comparable with a good rag paper.—J. L. P.

Chemistry in the Soda Pulp Process. Martin L. Griffin. *Paper Trade* J. 80, No. 6, 144-145 (Feb. 5, 1925); *Paper* 35, No. 17, 62, 64 (Feb. 12, 1925); *Paper Mill* 49, No. 6, 74, 76 (Feb. 7, 1925); *Paper Ind.* 6, 2159-2160 (Mar. 1925). A general discussion of the principles involved in the soda process, and of some of the possible lines of future development.—A. P.-C.

Rinman Process

Rinmah Process for Cellulose Manufacture. E. L. Rinman. *Papier* 27, 1029-1033 (Sept. 1924; *Paper* 35, 224-226 (Nov. 27, 1924). A description of the results obtained in the actual commercial operation of the process.—A. P.-C.

Pulp from Resinous Woods. Anon. *Zellstoff U. Papier* 4, 285 (Nov. 1924). A description of the Rinman process (Fr. pat. 574,251) for producing sulphite pulp from resinous woods, containing not more than 2% resin. The chips, before or after the cooking process, are treated with organic solvents, such as benzene, benzine, turpentine, etc., at a temperature of 60 to 95°.—J. L. P.

Chlorine Process

Continuous Chlorination by Means of Nascent Chlorine. Raymond Fournier. *Pulp & Paper* 22, 614-615 (June 12, 1924). See *Pulp & Paper* 22, 1162 (Nov. 13, 1924); *Paper Trade J.* 79, No. 19, 56 (Nov. 6, 1924).—A. P.-C.

Chlorine Pulping Processes. Raymond Fournier. *Papeterie* 46, 946-950 (Oct. 25, 1924); 994-997 (Nov. 10, 1924); 1042-1046 (Nov. 25, 1924). A critical discussion of Schacht's article (*Papierfabr.* 21, 521-526, 1923).—A. P.-C.

Chlorination Treatment of Kraft Pulp. A. Papineau-Couture. *Paper* 35, 314-317 (Dec. 11, 1924). Brief discussion of the value of the de Vains process, with a description of Jaffard's results on its application to the bleaching of sulphate kraft pulp (*Pulp & Paper* 22, 1140, Nov. 6, 1924; *Paper Trade J.* 79, No. 14, 48, Oct. 2, 1924).—A. P.-C.

Pulp Manufacture by the Chlorination Process. Willi Schacht. *Papierfabr.* 22, 72-74 (June 17, 1924). A criticism of the de Vains pulp chlorination process. Disadvantages of this process are: formation of hydrochloric acid owing to the large quantity of chlorine used, losses in the extraction of the chlorinated pulp with alkaline liquors, high copper numbers of the pulp, and difficulty of manufacturing control. The pulps are characterized by their hardness and can be used only in the manufacture of a limited variety of papers. The process is further limited to cheap sources of power and an alkali chloride, and also an abundant supply of fibrous material.—J. L. P.

De Vains Process, James Strachan. *World's Paper Tr. Rev.* (July 25, 1924); *Wochbl. Papierfabr.* 55, 2595-2596 (Oct. 11, 1924). A reply to critics of the de Vains chlorination process.—J. L. P.

De Vains Process. Willi Schacht. *Wohbl. Papierfabr.* 55, 2596-2600 (Oct. 11, 1924). A further critical discussion of the de Vains process and, in particular, a reply to James Strachan.—J. L. P.

De Vains Process. Willi Schacht. *Papierfabr.* 22, 565-567 (Nov. 30, 1924). Controversial with Strachan. The de Vains chlorination process for producing pulp is considerably more complicated than the soda or sulphate processes.—J. L. P.

Manufacture of Pulp from Wood Materials. Societe Anonyme des Etablissements A. Olier. Ger. pat. 404,506. *Papierfabr.* 22, 526-527 (Nov. 2, 1924). Wood is converted into pulp by means of a continuous process involving the use of chlorine and sodium hydroxide, obtained electrolytically from sodium chloride. The operations take place in a series of successive containers and are continuous.—J. L. P.

Process for the Manufacture of Pulp from Fibrous Peat. Albert Koch. Ger. pat. 404,614; addition to 388,344. *Papierfabr.* 22, 583-584 (Dec. 7, 1924). Chlorine gas is passed continuously into the aqueous suspension of the fibrous material.—J. L. P.

Pulp Production by the Chlorination Process: Use of Liquid Chlorine for Bleaching. Anon. *Indus. Della Carta* No. 7 (1924); *Zellstoff U. Papier* 4, 283-284 (Nov. 1924). The chlorination process of Cataldi is considered to be better suited for manufacturing pulp than the de Vains process. Bleaching may be made more economical by (1) making the calcium hypochlorite solution from liquid chlorine and (2) bleaching with chlorine gas or chlorine water, after or followed by a chloride of lime treatment. The freshly prepared bleach solutions are better bleaching agents than a chloride of lime solution.—J. L. P.

Black Liquor

Investigations in the Decomposition of Spruce Wood with Alkali and the Behavior of the Soluble Constituents Upon Heating, Under Pressure, at High Temperatures. Erik Hagglund. *Cellulosechemie* 5, 81-87 (Sept. 28, 1924). A report on some studies on the evaluation of black liquor from soda pulp mills. Upon heating black liquor under pressure to 350° C., considerable amounts of methanol (methyl alcohol) and acetic acid, besides charcoal, pitch and oils, are formed. Resolution of spruce wood by means of sodium hydroxide according to the soda pulp process yields the following results, based on the weight of the wood: 42.8 per cent pulp, 21.6 per cent alkaline-lignin, extracted by ether; 2.2 per cent ether extract; 18.2 per cent lactones and hydroxy acids; 3.2 per cent acetic acid; 1.7 per cent formic acid; 0.4 per cent methanol; 6.9 per cent soluble lignin, etc.; and 3.0 per cent undetermined matter. The lignin was precipitated from the black liquor by adding hydrochloric acid; this material was then extracted with ether. The ether extract, on heating under pressure with sodium hydroxide at 350° C. for 1 hr. gave 27 to 38 per cent charcoal and pitch, 3.6 to 9.4 per cent methanol, 3.5 to 8.0 per cent acetic acid, and 0.41 to 0.75 per cent formic acid. In general the higher values resulted when the lignin to sodium hydroxide ratio was 2.1. When the black liquor from 100 g. wood was subjected to the pressure-heating treatment for 1 hr. at 360° C., about 7 g. acetic and 2 g. formic acids were produced. On evaporation of the liquor, so treated, and distillation of the residue, an 80 per cent yield of acetone was obtained. The quantity of methanol formed amounted to 46 per cent of the theoretical quantity based on the methoxyl content of the wood. No methoxyl groups were present in the residue after the pressure treatment.—J. L. P.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

Joint Pulp Report of the Associations

(continued from last week)

Sulphate or Kraft Pulp

As in other parts of the Paper Industry, no definitely set standards can be unqualifiedly assumed; but certain practices have been established and can be tabulated for the benefit of those who contemplate new mill or reconstruction.

I. DIGESTERS:

a. Standard capacities 2 to 6 tons.
b. Kinds—Tumbling and Stationary, welded.
c. Cooking methods:
   1. Direct steam—tumbling.
   2. Direct steam—pump circulation.
   3. Indirect steam—pump circulation.
   4. Morterud System.

Stationary digesters with indirect heating and pump circulation require no vacuum evaporators account of less dilution of liquor.

II. WASHING STOCK:

a. Open pan or tank—old style.
b. Closed diffuser—stock transferred, counter current to wash water.
c. Closed diffuser—stock remaining in diffuser until washed.
d. Vacuum washing cylinders or filter, latest idea require less space, give less dilution of wash water.

III. RECOVERY ROOM:

a. Must have ample tank room for black liquor.
b. Vacuum evaporators, 3 or 4 effects.
   High or low pressure—latter most common.
c. Disc evaporators—very efficient. Should be elevated above rotary, first cost higher but soon made up by efficient operation.
d. Most mills use both vacuum and discs.

IV. ROTARY INCINERATORS: LONG AND SHORT.

Short 9 x 18-20—long 9 x 28'-30'.
All brick lined with capacities up to 30 tons per unit.
Drives—supported on trunions and driven by gears or sprocket and chains.

V. SMELTING FURNACES:

a. Single or b. Double.
Single—require less arch and wall work and are more rapidly constructed.
Double—Greater first cost but more efficient in burning black ash.
It is generally conceded that efficiency of smelters depends on number of blow pipes and location, also amount of air pressure.
Furnace Linings. Many substances tried, bricks of magnesia and chrome give good service; but most generally soapstone is used to good advantage.
Blow Pipes. Of iron, water cooled, from one to three to each furnace, determined by experiment, one 5 inch pipe often replaces 3 (2½ inch) pipes less trouble experienced where single pipe can be used.

VI. CAUSTICIZING ROOM:

Usual practice is to have iron tanks of about 13 ft. dia. 10 ft. high with lime baskets and agitators and to make at least 4 washes on the sludge unless filter is used.
With filter. Alkali loss in sludge can be cut to less than one-half of 1% on weight of sludge.
Rotary filter in connection with lime reburning plant ideal layout for new plant.
Cuts cost of lime and reduces loss in sludge to minimum.

VII. CHEMICALS USED:

Lime (high calcium) 500 to 700 lbs. per ton of pulp.
Salt Cake 350 to 500 lbs. per ton of pulp.
Nitre Cake (used in smelter to replace salt cake by some).
Soda Ash—not necessary in well regulated mill.

VIII. WOODS USED:

Spruce—Balsam—Jack Pine—Hemlock, Tamarack and other pines.
Product per cord? Varies with different kinds of wood used and runs from 850 lbs. to 1,100 lbs. with the bark on the wood when measured.

IX. COOKING TIME:

From 1¾ hours on small tumbling to 6 hours on large stationary digesters.
Pressure, maximum available, 125 to 135 max. average.
Steam used—6,000 lbs. per ton—considered 100 per cent.
Chips—½-inch to ⅝-inch best.
Woods—dry or semi-dry, best 38 per cent moisture.

X. BY-PRODUCTS:

a. Turpentine—can be easily gotten without much equipment.
b. Rosin Oil
c. Processes of destructive distillation patented but not used extensively in this country.
Alcohol—acetone—methanol, etc.

Groundwood Division

An investigation of machinery discloses a very badly mixed

COMMITTEE OF FIFTEEN GROUND WOOD REPORT

	1	2	3 A	3 B	4 A	4 B	5	6	7	8	9
1. No. of pockets and kind of grinders.	20 Mag. 2 Pocket type 16-232 4-250 Max. 62x54"	3 Pocket Carthage 210 27x54"	3 Pocket 225 and 275 27x54"	Magazine 233 54x60"	3 Pocket 220 27x54"	3 Pocket 180 27x54"	3 Pocket 220 and 240 27x54" 34x54"	International 2 Pocket 250 27x54" 50x54"	3 and 4 Pocket 220 and 240 27x54" 32x54" 27x60"	3 Pocket 240 54x56"	3 Pocket 240 27x54"
2. Speed of grinders											
3. Size of stone											
4. Pressure used	150 lbs.	60 lbs.	45 lbs.	160 lbs.	35-90 lbs.	75-90 lbs.	60-65 lbs.	60-70 lbs.	50-120 lbs.	65 lbs.	60 lbs.
5. Size of grinder cyl.	1 sq. in.	14"	17½"	22-83"	16"	10"	14"	14"	16"	14"	16"
6. Power per stone	22½" dia.	700	550	1,400	435	425	450	.....	400-800	1,000	400-450
7. Kind of power	1,400 Elec.	Water	Hydraulic	Elec.	Water	Water	39" Water turbines	Hyd. and elec.	W. W. and elec.	Elec.	Water and elec.
8. H.p. per ton	70	45-55	70 (est.)	79 (actual)	72	75	60	65-75	65 Hp. B. D., 55-70 Hp. D.	55	55-60
9. Cons. of acc. stock from screen.	.40-.45	½ of 1%	4% air dry	4% air dry	35% B. D.	30% B. D.	.....	5% air dry	.40-.45	.438	.4
10. Cons. of slush grind to mach.	3%	3¼%	3¼%	3¼%	Lap	3½% A. D.	2½; 3%	3% air dry	30-32	2.81	3%
11. Kinds of wood used	Spruce and balsam, balsam, Design, Quiller	Spruce, jnme balsam Impco	Spruce, balsam, some J. pine Quiller type	Spruce, balsam, some J. pine Quiller type	Spruce	Spruce	Spruce, poplar	Spruce, fir	Spruce and some poplar and pine	Spruce, hemlock, wh. fir	Spruce
12. What make screens					Impco Cent. No No	Impco Cent. Yes Yes	Impco	Impco	Impco	Impco Cent.	Impco Impco No
13. Do you use knotters?	Yes, Impco	No, Rotary	No	No	Yes	Yes	Impco	Yes	Yes	Yes	Refiner
14. Do you use tailers?	No. Flat screens	No. Flat screens	Yes	Yes	140° F.	140° F.	120°-130° F.	160° F.	Yes	Yes	150°-160° F.
15. Temp. of pulp in grinder pits.	160° F.	140°-160° F.	150° F.	150° F.	90% White water	80% White water	Yes	Yes	55°-60° C.	160° F.	Much as can
16. Do you run as closed systems using all W. W.?	Yes	No	Some W. W. discharge	Some W. W. discharge					No	No	
17. Prdt'n per cd. 128 cu. ft. unbarked wood.	2,142 lbs., less 1-2% loss in barking	2,420 lbs. 2,150 lbs./cd. of drum barked wood	2,100 lbs.	2,100 lbs.	2,400 lbs.	2,100 lbs.	1,900 lbs.	1,975 lbs.	1,800 lbs.	2,200 A. D.	1,890 lbs.

demand for grinders, as to sizes of stone used. It seems best to limit our Standards suggestions to two sizes of wood, i.e. 24" and 48" long.

This, however, does not limit the size of the grinder. We recommend three types of grinders, three pocket, four pocket, both hand fed and magazine automatic, but these three types in two sizes for 24" and 48" wood.

As to speeds. The safe rim speed of a soft sandstone of 54" diameter probably does not exceed 3,600 ft. per minute, although some mills are running their pulp stones at a faster speed than this, and some are being run up to 4,400 ft. on magazine automatics.

As to sizes of stones, or diameter, on account of the inability to get the desired speeds of water wheels for direct connected loads, some plants have increased the diameter of the stone to get the desired rim speed.

The standard stone for 24-inch wood is 27x54 and about 80 per cent of the demand is for this size. For magazine grinders, the stones run from 50 inch to 54 inch face and up to 67 inches in diameter, but the majority are 54 inch face.

As to power, the manufacturers of water wheels say it is difficult to get a certain R.P.M. for grinder direct connection on account of the variation in head at different points, but usually they can come within the range of 220 to 250 and the difference in rim speed can be made up in the diameter of the stone.

The electric people can make grinder motors for 60 cycles at speeds from 200 to 257 R.P.M., and for 40 cycles 200 to 267 R.P.M. The standard speed for grinding averages about 240 R.P.M., and this is the one they prefer to make, though the others are being made.

There is one great difficulty with setting any standard, however, because the stones wear down from ½ to 1 inch in diameter per month according to the kind of dressing or burs used, and a grinder originally set for 3,600 feet per minute rim speed with 250 R.P.M. motor gradually slows down to close to 3,000 feet, or a reduction of about 20 per cent in the R.P.M., a condition which cannot be remedied as the motor R.P.M. is fixed.

The screen people have various types of screens to offer, but it seems the centrifugal screen and knotter are the ones most used, though some mills still use flat screens either for first stock or for tailings. The speeds of these screens and power demanded are set by the makers.

The power used per ton of pulp runs from 45 to 70 horse power on news grade and greater power per ton on higher grades.

The power per grinder is from 400 horse power to 1,400 horse power according to style of grinder and size of stone. The product per cord runs from 1,800 to 1,900 pounds per cord of wood measured with the bark on, to 2,200 to 2,400 pounds per cord of wood rossed and measured after being barked.

Many mills report 80 per cent of white water being used and some report closed system, using all white water, but still others report that they are not using white water to any great extent.

As a cord of wood varies so much, from the small 4-inch wood in use in one place to the large sawed or split square wood used in another, it is a difficult matter to get any standard, though the average, under Eastern conditions runs about:

1,850 pounds per cord measured with bark on.
2,300 pounds per cord measured with bark off.

The types of burs used are about as varied as the colors of Joseph's Coat and each pulp maker seems to work under his own ideas.

The temperature in grinder pits runs from 120 to 160, but the majority work for 160° F.

The pressure on stones is also a varied factor. They run from 35 to 100 pounds according to the diameter of cylinder but the average suggested as being nearly correct is 30 pounds to 35 pounds per square inch of pocket area, allowing of course, for the packing gland friction which is probably the best way to get

the figure, leaving each one to figure back to size of cylinder in grinders in use or to be used.

As to kinds of pumps to be used, that is not within the range of the committee's work, and nothing was said about wood preparation, so it will not be touched upon in this report.

As to forms for cost accounting, the cost men in each mill, no doubt find different conditions and need for special treatment in almost every case.

Where slush or deckered stock is pumped from pulp mill direct to paper mill, it is a difficult matter without measuring devices, and meters, to figure the pulp mill production, except on an average production per cord, but even there, there are so many variables such as white water losses and screenings waste, that no definite standard can be set.

There are some consistency regulators and measuring devices on the market, but as it is not the purpose of this report to advertise any one's product, we can recommend only that such equipment should be installed.

Bleached Sulphite

BLEACHING LIQUOR.

1. Is it prepared from powder, liquid, chlorine, or from your own Electrolytic Bleach Plant?

a	b	c	d	e	f	g
Electro-lytic	Powder	Liquid Chlorine	Electro-lytic	Liquid Chlorine	Liquid Chlorine	Liquid Chlorine

2. In terms of 35 per cent powder what is your sludge loss in percentage?

a	b	c	d	e	f	g
1.0%	1.0%	1%	.018%	——	3%	.5%

3. How many washes are made on the sludge?

a	b	c	d	e	f	g
Three	Four	——	Several	——	Two	Two

4. In the washing of sludge, what is the strength in available chlorine of 1st, 2nd, 3rd and 4th washings?

	a	b	c
1st	8.4 g.p.l.	2.2 g.p.l.	——
2nd	5.0 "	1.2 "	——
3rd	1.3 "	.6 "	——
4th	No. Wash	.1 "	——

d	e	f	g
Average 34.62 g.p.l.	——	3.22 g.p.l.	——
	——	3.22 "	——
	——	——	——
	——	——	——

5. What is the strength of the liquor and what is the ratio of the lime to the chlorine?

Strength Lime to Chlorine—

a	b	c
——	5.8 Be.	——
.98 to 1	——	1.22 to 1

d	e	f	g
140 g.p.l.	——	——	2% available cl.
2.4 to 1	——	2.25 to 1	1.2 to 1

6. What is the strength of the finished bleaching liquor?

a	b	c	d	e	f	g
56 g.p.l.	5.8 Be.	91 g.p.l.	75 g.p.l.	——	100 g.p.l.	57 g.p.l.

The answers to this question are based on the grams per litre of 35 per cent bleaching powder.

7. If using liquid chlorine or chlorine from the cells, is this chlorine absorbed in a tower, or by the Mathieson Tank System?

a	b	c	d	e	f	g
Towers	both	Towers	Towers	——	Mathieson	Mathieson

8. How much free lime is carried in the finished bleached liquor?

a	b	c	d	e	f	g
o.g.p.l.	?	?	?	——	.7 g.p.l.	.75 p.g.l.

Mill C submitted the following data in connection with questions 3 and 4. Sludge Loss.

SLUDGE LOSS. With the handling of bleach losses, it is a matter of the proper point of chlorination and subsequent handling of the liquor. We are equipped so that after we have finished chlorinating and have allowed the liquor to settle for a short period, we can draw off the clear liquid (by the aid of a light which shows the line of clear liquid) and the remaining liquor which usually contains about 500 gals. of sludge liquor can be diluted to the proper mark in gallons and be replenished with lime. This mixture is continued over and over. As you can see the lime in the sludge is gradually carried away with the fresh chlorination and drawing off of liquor. We draw from our mixing tank to the storage tank. This tank is so piped that we have a portion of the tank which acts as a collector for any lime that might settle out. At the end of each week we dilute this sludge up to a mixture that will flow fairly well and pump back to the mixing tank. We also have a connection from each tank so that we can wash to the sewer at any time necessary.

BLEACHING.

1. Is your method of bleaching intermittent or continuous?
   a. Intermittent.
   b. Intermittent.
   c. Filling is continuous, dumping is not.
   d. Continuous.
   e. Mathieson tank system.
   f. Intermittent.
   g. Intermittent.

2. What type bleaching apparatus do you operate?

a	b	c	d	e	f	g
Bellemer	Bellemer	Wolf	Couldman	Fletcher	Bellemer	Bellemer

3. What consistency?

a	b	c	d	e	f	g
6½%	5%	18%	4%	14%	5%	5%

4. What is the bleaching temperature?

a	b	c	d	e	f	g
95° F.	100° F.	87° F.	95° F.	——	105° F.	100° F.

5. Capacity of Bleacher?

a	b	c	d	e	f	g
9 tons	5 tons	4½ tons	——	——	4 tons	7 tons

6. Actual time of bleaching?

a	b	c	d	e	f	g
9½ hrs.	4 hrs.	2-3½ hrs.	——	——	1¼ hrs.	6½ hrs.

Mill D states it takes 6 to 7 hrs. from the time the stock enters until it is through the systems.

7. What is the time of filling?

a	b	c	d	e	f	g
2¾ hrs.	½ hr.	2½ hrs.	——	——	1 hr.	1⅓ hrs.

8. How long does it take to empty the bleacher?

a	b	c	d	e	f	g
½ hr.	¼ hr.	¾ hr.	——	——	½ hr.	1⅓ hr.

9. What is the power consumed per ton?
   a. 4 H.P. per ton.
   b. 2 H.P. per ton.
   c. 26.7 H.P. per ton based on 3 hrs. bleaching.
   d. ¾ H.P. per ton 100 H.P. motor bleaches 90 T and runs wet machine.
   e. ——.
   f. 6.25 H.P. per ton. Use 25 H.P. motor.

10. What speed do you run?
   a. 345 R.P.M.
   b. 480 R.P.M.

c. Impeller speed, Cross 50 R.P.M. Long 4 R.P.M.
d. Agitator 8 R.P.M.
e. ——.
f. 315 R.P.M.
g. 330 R.P.M.

11. Do you use the white water?
a. No.
b. No.
c. ——.
d. Use part of it for mixing with unbleached pulp before thickening at decker.
e. ——.
f. In washing only.
g. Use some.

The objections to using wash water seems to be chiefly on account of foam. One mill does not care to use it because it is polluted with resinous matter and other objectionable contents which have been removed from pulp in washing process and sees no sense in putting this back into the process again. Another mill states that the suspended matter in it frequently uses up too much bleach.

Soda Pulp

1. Kind of Wood Used.
a. Principally poplar, about 25% Hard Wood.
b. Poplar, Gum, Beach, Birch, Maple, Cherry.
c. Gum and Poplar.
d. Cotton Wood and Wood Wastes.
e. Poplar.
f. Spent Licorice Root.
g. Black Gum, Red Gum, Tupelo Gum, Yellow Poplar, Lynn, Cucumber, etc., and also Southern Pine.

2. Yield per Cord.

a	b	c	d	e	f	g
1097	(1100 to 1150)	1150	1050	1200 unbeached 1080 bleached air dry	raw material not measured in cords	1107

3. Dimensions of Cord Used.

a	b	c	d	e
8′x4′x4′	128 cu. ft.	128 cu. ft.	4′x8′x4′6″	8′x4′x4′

f. raw material not measured in cords
g. 4′x4′x8′

4. Method of Calculating Yield per Cord.
a. (Machine Wgt. + 10% for Moisture) — (Wgt. sulphite, clay and Materials of known weight) = weight of soda pulp produced ÷ cords wood used = yield.
b. Measure wood used per month and pulp produced in same length of time.
c. By dividing production by difference in inventory each month.
d. Number of cords used for past year divided into production, calculated by measurement of, and consistency tests on slush stock produced.
e. Calculated from a series of tests, where accurate measures, weights and shrinkages were kept.
f. ——.
g. Dry pulp produced plus slush used divided by measured cordage sent from wood yard to mill.

5. Number of Digesters and Size of Digesters.
a. 1—Vertical welded 9′ 9″x47′ over all.
3—Vertical riveted and welded 12′ diam. x 40′ over all.
b. 10—28½′x7′
3—25′x7′
c. 9—7′x27′
d. 4—846.5 cu. ft. Net 7′x24′
e. 2—7′x27′
f. 5—7′x28′
g. 10—7′x30′

6. Yield per Cu. Ft. of Digester.

a	b	c	d
12 lbs per day of 24 hrs.	18 lbs.	4.95 lbs.	3.9 lbs.

e	f	g
4.48 lbs.	3.25 lbs.	4.68 lbs.

7. Steam Pressure Used.

a	b	c	d
110 lbs.	115 lbs.	120 lbs.	110 lbs.

e	f	g
110 lbs.	125 lbs.	100-105 lbs.

8. Cooking Time from Start to Blow.
a. Poplar 6¼ hrs. Hard Wood 7¼ hrs.
b. 5-7 hrs. depending on wood used.
c. 7½-8 hrs.
d. 3½ hrs.
e. 5 hrs.
f. 11 hrs.
g. 5½ hrs.

9. Cooking Time from Start to Maximum Pressure.

a	b	c	d
1¼-1½ hrs.	2¼ hrs.	5½-6 hrs.	50 to 60 minutes

e	f	g
1 hr.	7 hrs.	1 hr.

10. Kind of Heating (Direct or Indirect).

a	b	c	d	e	f	g
Direct	Direct	Direct	Direct	Direct	Direct	Direct

11. Method of Circulation—Injector or Pulp.

a	b	c
Pump	Injector	Logan Circulation

d	e	f	g
Injector	Injector	None	Steam Ring relief for Circulation

12. Gallons of Liquor per Cord of Wood.

a	b	c
710	700-1000 depending on wood used	1000

d	e	f	g
985	829	——	850

13. Cooking Liquor Density—Grams per Liter Na_2CO_3.

a	b	c
148	113	116

d	e	f	g
72 NaOH 106 Na_2CO_3	106	——	114

14. Cooking Liquor Caustically.

a	b	c
91%	94%	90%

d	e	f	g
90	91-92%	91%	91%

15. Volume of Water Used to Wash Brown Stock.
a. 1.2 to 1.5 gals. per lb. stock.
b. ¾ gallon per gallon strong liquor.
c. 3.5 gallons per lb.
d. No accurate data.
e. 1 gallon per lb.
f. ——.
g. ——.

16. Volume of Weak Liquor per Pound of Stock to Evaporators.

a	b	c
1-1.5 gals.	1.7 gals.	1.4 gals.
d	e	f
No data	1.8 gals.	——
g		
1.55 gals.		

17. Kind of Washing—Tank or Rotary Filter.

a	b	c
Tank	Open-Rectangular Pans	Tank
d	e	f
Tank	Rotary Filter	Rotary
g		
Open Tank		

18. Liquor Density to Evaporators.

a	b	c
9.0-10.0° Be.	9.50° Be. @ 60° F.	7.8° @ 160° F.
d	e	f
5° Be.	9°-10° Be.	5°-6° Be. @ 120° F.
g		
10° Be. @ 60° F.		

19. Kind of Evaporators.

a	b	c
Verticle Multiple Effect	Yaryan	Yaryan
d	e	f
Swenson Triple Effect	Yaryan	Kestner
g		
Zaremba & Ordway Yaryan		

20. Liquor Density to Rotary Furnaces.

a	b	c
39.0° Be.	35° Be. @ 60° F.	32° Be. @ 210° F.
d	e	f
32.5° Be. @ 140° F.	38° Be.	28-30° Be. @ 120° F.
g		
35° Be. @ 60° F.		

21. Liquor Temperature to Rotary Furnaces.

a	b	c
82° C.	145° F.	210° F.
d	e	f
140° F.	140° F.	Variable
g		
175° F.		

22. Number of Rotary Furnaces.
3 in use.

a	b	c	d	e	f	g
5	7	3	2	1	1	4

23. Size of Rotary Furnaces.
a. 1-10′ diam. x 14′ outside—302 sq. ft. (Burning
4-9′ diam. x 20′ outside—each 448 sq. ft. (Surface
b. 4-30′ x 8′
3-16′ x 8′
c. 8′ x 20′
d. 7′ 4″ Inside 17′ 10″ (414 sq. ft. Burning Surface.)
e. 8′ x 14′
f. 9′ x 20′
g. 9′ x 20′

24. Pounds of Black Ash per Sq. Ft. of Burning Surface.

a	b	c
135-175 lbs.	60 lbs.	65-70 lbs.
d	e	f
145 lbs. per day	——	——
g		
56.9 lbs		

25. Percent Recovery.

a	b	c
81%	90%	84%
d	e	f
85%	——	68-70%
g		
82.8%		

26. Pounds of Fresh Soda Ash Used per 100 lbs. of Pulp Produced.
a. ——
b. 9 lbs.
c. 13 lbs.
d. 11.8 lbs.
e. 14 lbs.
f. 22 lbs.
g. 12.5 lbs.

27. Pounds of Lime Used per 100 lbs. of Pulp Produced.

a	b	c
38 lbs.	40 lbs.	55 lbs.
d	e	f
45.3 lbs	38.7 lbs.	34 lbs.
g		
48 lbs.		

28. Pounds of Bleach Used per 100 lbs. of Pulp Produced.

a	b	c
12.3 lbs.	12 to 17 lbs.	11.5 lbs.
d	e	f
14 lbs.	12 lbs.	——
g		
17 lbs.		

29. Type of Screen Used for Brown Stock.
a. Centrifugal.
b. Packer Flat.
c. Diaphragm.
d. Packer.
e. Flat.
f. ——
g. Packer Flat Plate.

30. Type of Dewatering Apparatus Used.
a. Cylinder Washers.
b. Feltless Cylinder machine.

c. Wet Machines.
d. Decker.
e. Washers.
f. ——
g. Thompson Washers.

31. Type of Bleacher Used.
a. Continuous Tank.
b. Bellmer.
c. Bellmer.
d. Bellmer.
e. Single Tank.
f. ——
g. Bellmer.

32. Strength of Bleach Used—Gms. Per Liter.

a	b	c	d	e	f	g
77.38	20	85	30	17.5	——	100 g.p.l. 35% bleach

33. Kind of Bleach Used—Powder or Electrolytic.
a. Electrolytic.
b. Electrolytic.
c. Electrolytic.
d. Liquid Chlorine—Lime System.
e. Powder.
f. ——
g. Liquid Chlorine.

34. Kind of Electrolytic Cell Used.
a. Allen-Moore.
b. Hargrave-Bird.
c. Allen-Moore.
d. None.
e. ——
f. ——
g. ——

35. Temperature of Stock in Bleacher.

a	b	c
45° C.	115-120° F.	90-100° F.
d	e	f
100° F.	110-120° F.	——
g		
110° F.		

36. Time of Bleaching.
a. Variable—about 4 hrs. per cycle.
b. 4½ hrs.
c. 6 hrs.
d. 6 hrs.
e. 3 hrs.
f. ——
g. 2½ hrs.

37. Tonnage Produced per Man Employed.
a. .93 per man day.
b. 1.14 per man day.
c. .75 per man day.
d. 1.02 per man day.
e. .66 per man day.
f. .50 per man day.
g. .45 per man day.

38. Number of Men.

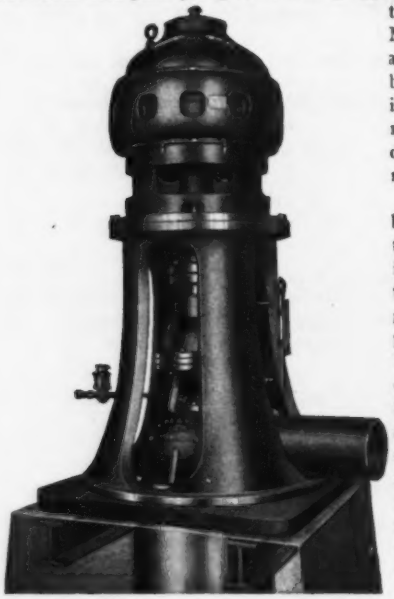
a	b	c	d	e	f	g
92	96	61	35	20	20	200

J. H. Black Goes With Spruce Falls Co.

KAPUSKORING, ONT., July 27, 1925.—J. H. Black, head of the Backus Lumber properties in Canada, has been appointed head of the Spruce Falls Company, controlled by the Kimberly-Clark Company.

Layne Vertical Centrifugal Pumps

The latest model of the Layne Vertical Centrifugal pump, for lifting water from deep wells, is shown in the accompanying cut. The seven coat paint job gives a lasting appearance that is a credit to any pump room. Many improvements and refinements have been incorporated to increase further its already great efficiency, durability and smoothness of operation.



Only one stuffing box is used in the entire assembly and it is in the pump head at the surface of the ground. The box has perfectly plain design. The motor is direct connected through a flexible coupling, balanced dynamically and statically. Hydraulic down thrust, as well as the weight of shaft and impellers is carried by a thrust bearing of the tilting segment type, immersed in oil. The radial bearing of the full floating shaft is mounted in the same housing and automatic lubrication is effected by centrifugal force acting on the oil in the rotating bearing. This automatic oil circulation can be seen through a sight feed gauge. Additional bearing protection is afforded by pressure cooling water circulating through a coil of copper tubing inside the bearing housing.

The shaft is full floating and is supported only at the drive point, eliminating all side strain. It is entirely enclosed in a steel tube casing filled with oil. Water rising through the discharge column surrounding the shaft casing does not come in contact with the oil and its flow is not obstructed by exposed bearings and their supports. The bottom guide bearings is enclosed so that no sand can reach the drive shaft and its housing has stream line form which offers minimum resistance to flow of water through the pump.

The bowls allow greater step-up in each stage than heretofore, giving greater efficiency and resulting in more work per stage. All impeller and diffuser castings are made from accurately machined metal patterns, core boxes and dryer plates to obtain correct spacing of vanes and ports. The result is the same back pressure of discharging water at all points around the impeller, producing a true hydraulic balance. Each impeller is also in perfect dynamic and static balance. All passages in vanes and diffusers are hand finished. The impellers are of the closed type with solid plate above and below the blades; giving great strength and preventing leak of water between moving blades and stationary bowls.

To Be Largest Bag Factory in West

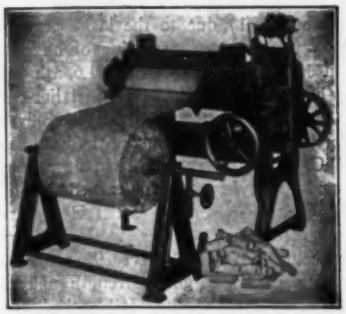
PORTLAND, ORE., July 23, 1925.—The new bag factory to be erected for the Crown-Willamette Paper Company at Camas, will be the largest in the west, and the contract for the construction work which is just signed will assure its completion by November 1. Machinery however will not be fully installed ready for operations until the first of the year. When the plant is completed it will triple former production facilities, a situation which has become vitally necessary with the greatly increased demand for this company's product.

Dietz Toilet Paper Machinery

AND LATEST IMPROVED PATENTED

Automatic Tube Machines

For Making Tubes for Toilet Paper Rolls, Paper Towel Rolls



Patented Feb. 22, 1916, May 18, 1920.

Capable of producing 3,600

Toilet Tubes

per hour direct from roll.

Towel Tubes

are made at rate of 1,800 per hour. Substantially built and fully guaranteed.

Toilet Paper Machines for making Toilet Rolls with or without perforations and machines for making Sanitary Crêpe Paper Towels, Punch Presses for Sheet Toilet Paper, Drop Roll Slitters, Photo Mount Beveling Machines, Rotary Card Cutting and Collating Machines, Etc.

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Investigation of Papermaking Materials

Investigation of Papermaking Materials. *Bull. Imp. Inst.* 22, 418-433 (1924). *Bamboo* (probably *Bambusa nana*) from Mauritius. Ripe, full length bamboo stems, and fully developed immature bamboo steams showed, respectively: moisture 9.7, 9.7; ash, 3.1, 2.0; cellulose 45.0, 48.5; cellulose on dry basis 49.8, 53.7%; fiber 0.5 to 3.7, 0.5 to 3.3 mm.; average fiber length 1.9, 1.6 mm. Treatment for 7 hrs. at 160° C. with 20% caustic soda (on the material) as a 4% liquor gave yields of 32, 36 and 34.5% with ripe stems, green stems and green stems from which side shoots had been removed, respectively. The treatment was just sufficiently drastic to give pulps capable of being reduced in the beater. They gave strong brown papers, and bleached fairly readily to a cream color. The bleached pulps furnished opaque papers of good strength and quality and would be suitable for the commercial production of high grade paper. *Elephant grass* from Sierra Leone, had moisture 13.5, ash 3.1, cellulose 44.9, cellulose on dry basis 51.9%, ultimate fiber length 0.5 to 3.7, average 1.4 mm. Cooking for 5 hrs. at 140° C. with 16% caustic soda (on the grass) as 4% liquor gave a 46% yield of pale brown pulp giving firm, strong paper with many specks of incompletely disintegrated material, and bleaching easily to a good white pulp (43% yield on original grass), yielding strong paper of good quality but not not free from specks. Increasing the cooking time to 7 hrs. reduced the yields of unbleached and bleached pulps to 44 and 41% respectively, without much change in the quality of the pulps. Cooking 5 hrs. at 160° C. with 20% of caustic gave yields of 41 and 39% of unbleached and bleached pulp, respectively, the latter free from specks; and the papers from these pulps were practically as strong as those prepared under less drastic cooking conditions. *Bardy reed* from Iraq (Mesopotamia) had: moisture 12.2, ash 5.8, cellulose 38.2, cellulose on dry basis 43.5%, ultimate fiber length 0.3 to 2.4 mm., average 0.9 mm. Cooking 5 hrs. at 140° C. with 16 parts of caustic soda at a concentration of 3% was insufficient to break up the material completely. Owing to lack of sample further liquor was added to the material to bring the alkali to 20 parts and cooking was continued another 2 hrs., which gave 37 to 26% yields of unbleached and bleached pulps, respectively, of rather unpromising character. The paper from both bleached and unbleached pulps was fairly strong, but contained incompletely reduced fiber in both cases. *Costas afer* from Uganda had: moisture 12.9, ash 4.0, cellulose 44.7, cellulose on dry basis 51.3%, ultimate fiber length 0.5 to 2.8, average 1.5 mm. Cooking 5 hrs. at 140° C. with 20 parts of caustic at a concentration of 4% gave a 48% yield of pulp containing many specks and bleaching fairly readily to a cream tint. Both bleached and unbleached papers were well felted and of good strength. Increasing time to 6 hrs. and temperature to 160° C. gave a 43% yield of pulp furnishing brown paper of good strength and fairly free from specks. The pulp bleached with some difficulty, and then furnished a white paper of good strength and quality. *Amomum granum-paradisi* from Uganda, closely related to *Costus afer*, had: moisture 11.1, ash 8.4, cellulose 38.5, cellulose on dry basis 43.3%, ultimate fiber length 0.5 to 2.5, average 1.1 mm. Cooking 5 hrs. at 140° C. with 16 parts of caustic at a concentration of 4% gave a 44% yield of incompletely reduced pulp yielding brown paper of good strength. Cooking 6 hrs. at 160° C. with 20 parts of caustic reduced the yield to 35%. The pulp was well disintegrated, furnished a hard, rather "rattly" brown paper of good strength, and bleached with some difficulty. The bleached pulp yielded white paper similar in strength and quality to the unbleached product. *Abutilon tortuosum* from South Africa had: moisture 10.0, ash 0.9, cellulose 46.5, cellulose on dry basis 51.7%, ultimate fiber length 0.5 to 1.3, average 0.9 mm. Cooking 6 hrs. at 140° C. with 16 parts of caustic at a concentration of 3% proved insufficient to reduce the material. Increasing the time to 9 hrs. and temperature to 160° C. gave a 50% yield of pulp which could not be entirely disintegrated in the beater and which could not be bleached. Cooking 6 hrs. at 160° C. with 20 parts of caustic at a concentration of 3.5% gave 33 to 28% yields of unbleached and bleached pulps, respectively. The light brown, unbleached pulp was completely disintegrated and bleached fairly readily to a good white tint. Both unbleached and bleached papers were somewhat harsh and fairly strong. Suitability for the commercial manufacture of paper is doubtful on account of the high alkali consumption (16.1) due to the large proportion of pith. *Waste cotton bolls* from Egypt, consisting of husk 34, seed 45, lint 20, loose dirt and dust 1%, had: moisture 11.6, ash 4.6, cellulose 33.5, cellulose on dry basis 37.9%. Hand separated lint contained 82.4% cellulose on the dry basis. Tests with the husks only showed them to be unsuitable for paper making. Cooking the hand separated lint for 5 hrs at 140° C. with 12 parts of soda at a concentration of 2% gave 66.5 and 62% yields of unbleached and bleached pulps, respectively, giving good papers of satisfactory strengths. Cooking the material as received for 5 hrs. at 140° C. with 20 parts of caustic at a concentration of 4% gave 29% of sufficiently disintegrated pulp, yielding paper of good strength and medium brown color, but showing many black specks. It bleached with some difficulty, giving a cream colored paper of good strength which showed only a few fine specks. Increasing the cooking temperature to 160° C. reduced the yield to 25%, made the paper slightly darker, and eliminated most of the specks, the quality being otherwise practically the same as before. "Crude lint" still containing a fair amount of seed and husk was obtained in 22% yield by lightly grinding the bolls and then sifting. Cooking 5 hrs. at 140° C. with 16 parts of caustic at 4% concentration gave 51% of pulp which was sufficiently disintegrated except for a quality of small black particles, and which gave a better paper than the material as received. It bleached with some difficulty and then yielded paper of good strength. The material is considered suitable only for use in Egypt, without preliminary preparation, for the manufacture of brown wrapping paper for local use. *Arrowroot refuse* ("bittie") from St. Vincent, consisting of fibro-vascular bundles of the rhizomes of *Maranta arundinacea* which are left after the starch has been extracted, had: moisture 12.5, ash 5.1, cellulose 32.6, cellulose on dry basis 37.3%, ultimate fiber length 0.3 to 1.1 mm., average 0.6 mm. After washing with boiling water to remove non-fibrous material the residue contined 48.9% cellulose on the dry basis. Cooking 6 hrs. at 140° with 20 parts of caustic at a concentration of 4% gave a 35% yield with a 15.0% soda consumption. The pulp contained incompletely disintegrated fragments and gave a strong harsh paper which shrank excessively on drying. The material is considered of little value for paper making on account of low yield, high alkali consumption, and poor quality of the paper.—A. P.-C.

John Matthews Returns From Inspection

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 29, 1925.—John Matthews, chief of the Paper Division and Assistant Director of the Bureau of Foreign and Domestic Commerce returned last week from a six weeks inspection tour of the Division offices of the Bureau.

It is expected that now that Mr. Matthews has returned an assistant chief for the Paper Division will be appointed. The appointment has been held up awaiting the return of Mr. Matthews.

Hammermill Paper Co. Agents to Meet

The fourteen annual meeting of the agents of the Hammermill Paper Company will be held at the Kahkwa Club at Erie, August 26-28 inclusive. The usual attractive program for the entertainment of is quests has been prepared by the company.

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NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JULY 25, 1925

SUMMARY

News print .....2,148 rolls, 410 bls.
Wrapping paper...497 bls., 80 bdls., 181 rolls, 5 cs.
Printing paper .....68 rolls, 227 cs.
Wall paper .....10 cs., 4 pgs., 3 bls., 81 rolls
Cigarette paper .....214 cs.
Packing paper.....314 bls., 796 bdls., 1 cs.
Surface coated paper.....39 cs.
Colored paper .....2 cs.
Writing paper .....65 cs.
Filter paper .....26 cs.
Fancy paper .....2 cs.
Paper hangings .....31 bls., 2 cs.
Kraft paper .....160 rolls
Gold-coated paper .....5 cs.
Spools of paper.....37 cs.
Strawboard .....138 rolls
Metal coated paper.....2 cs.
Paper tubes .....18 cs.
Drawing paper .....111 cs.
Basic paper .....51 cs.
Baryta coated paper.....85 cs.
Decalcomania paper .....7 cs.
Motor tire friction paper.....11 bls.
Profile paper .....12 cs.
Miscellaneous....163 cs., 170 rolls, 14 pgs., 72 bls.

CIGARETTE PAPER

British-American Tobacco Co., Cedric, Liverpool, 30 cs.
The Surbrug Co., Majestic, Havre, 17 cs.
Liggett & Myers Tobacco Co., Schodack, Havre, 13 cs.
Standard Products Corp., by same, 20 cs.
Standard Products Corp., La Savoie, Havre, 46 cs.
The Surbrug Co., by same, 5 cs.
F. P. Gaskell & Co., by same, 58 cs.
Zorro Tobacco Co., Inc., Britannia, Lisbon, 25 cs.

WALL PAPER

A. C. Dodman, Jr., Inc., Majestic, London, 8 cs., 4 pgs., 2 bls.
Baldwin Universal Co., Leviathan, Southampton, 1 bale.
R. F. Downing & Co., Minnekahda, London, 1 cs.
Janeway & Carpender, Baltic, Skutskar, 81 rolls.
Thomas & Pierson, Aquitania, Havre, 1 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Minnekahda, London, 31 bls., 2 cs.

KRAFT PAPER

Arkell Safety Bag Co., Stockholm, Gothenburg, 138 rolls.
Chatham & Phoenix National Bank, by same, 22 rolls.

NEWS PRINT

Parsons & Whittemore, Inc., West Gotomska, Raumo, 226 rolls.
Parsons & Whittemore, Inc., Pr. Harding, Bremen, 410 bls., 281 rolls.
Parsons & Whittemore, Inc., Baltic, Skutskar, 1,423 rolls.
M. Gottesman & Co., Inc., Stockholm, Gothenburg, 218 rolls.

PRINTING PAPER

Keuffel & Esser, Thuringia, Hamburg, 68 rolls, 1 cs.
Maurice O'Meara Co., Baltic, Skutskar, 124 cs.
L. Schulman, by same, 98 cs.
International Forwarding Co., Mercier, Antwerp, 4 cs.

WRAPPING PAPER

Maurice O'Meara Co., West Gotomska, Sundsvall, 244 bls.
Blauvelt-Wiley Paper Manufacturing Co., California, Glasgow, 80 bdls.
Foreign Paper Mills, Inc., Stockholm, Gothenburg, 103 bls., 172 rolls.
Goldsmith & Co., by same, 150 bls.
F. C. Strype, Zeeland, Antwerp, 9 rolls, 5 cs.

PACKING PAPER

J. P. Heffernan Paper Co., Thuringia, Hamburg, 70 bls
Bendix Paper Co., by same, 1 cs.
J. P. Heffernan Paper Co., Stockholm, Gothenburg, 796 bdls., 244 bls.

FILTER PAPER

H. Reeve Angel & Co., Inc., Minnekahda, London, 8 cs.
Zinkeisen & Co., Thuringia, Hamburg, 3 cs.
Franco-American Import Corp., Aquitania, Bordeaux, 15 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Minnekahda, London, 2 cs.
Keuffel & Esser, Thuringia, Hamburg, 109 cs.

WRITING PAPER

Guibout Freres, Majestic, Havre, 8 cs.
J. W. Hampton, Jr., & Co., Resolute, Hamburg, 2 cs.
J. W. Hampton, Jr., & Co., Schodack, Havre, 1 cs.
Hoole Service Co., by same, 13 cs.
J. Wanamaker, Aquitania, Havre, 2 cs.
The Eleto Co., by same, 1 cs.
American Express Co., by same, 9 cs.
F. C. Strype, Britannia, Marseilles, 24 cs.
Keuffel & Esser, by same, 5 cs.

COLORED PAPER

J. A. Natiello Co., Thuringia, Hamburg, 2 cs.

FANCY PAPER

Whiting & Patterson Co., Aquitania, London, 2 cs.

BASIC PAPER

Globe Shipping Co., Bremen, Bremen, 51 cs.

BARYTA COATED PAPER

Globe Shipping Co., Bremen, Bremen, 10 cs.
Globe Shipping Co., Pr. Harding, Bremen, 75 cs.

GOLD COATED PAPER

C. B. Richard & Co., Bremen, Bremen, 2 cs.
C. B. Richard & Co., Pr. Harding, Bremen, 3 cs.

METAL COATED PAPER

Perry Ryer & Co., Bremen, Bremen, 2 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Zeeland, Antwerp, 39 cs.

DECALCOMANIA PAPER

C. W. Sellers, Bremen, Bremen, 7 cs.

SPOOLS OF PAPER

J. I. Bernitz, Ala, Rotterdam, 37 cs.

MOTOR TIRE FRICTION PAPER

H. Muehlstein & Co., California, Glasgow, 11 bls.

PROFILE PAPER

E. Dietzgen & Co., Thuringia, Hamburg, 12 cs.

PAPER TUBES

H. de Maguinn, La Savoie, Havre, 18 cs.

STRAWBOARD

A. Vuyk, N. Amsterdam, Rotterdam, 138 rolls.

MISCELLANEOUS PAPER

Keferstein & Demonet, Ala, Rotterdam, 1 cs.
R. Wilson Paper Corp., California, Glasgow, 35 cs.
Standard Underground Cable Co., by same, 1 cs.
J. A. Roebling & Sons, by same, 57 rolls.
H. Reeve Angel & Co., Inc., Hague Maru, Yokohama, 8 cs.
Freedman & Slater, Thuringia, Hamburg, 1 cs.
P. H. Petry & Co., La Savoie, Havre, 14 pgs.
Japan Paper Co., by same, 5 cs.
W. H. S. Lloyd & Co., by same, 2 cs.
Thomas & Pierson, by same, 2 cs.
Whiting & Patterson Co., by same, 10 cs.
Coenca Morrisson Co., by same, 4 cs.
F. W. Devoe & Reynolds, by same, 7 cs.
C. K. MacAlpine & Co., Stockholm, Gothenburg, 113 rolls.
D. S. Walton & Co., by same, 72 bls.
E. H. Sergeant & Co., by same, 2 cs.
S. Gilbert, N. Amsterdam, Rotterdam, 9 cs.
Japan Paper Co., Duilio, Genoa, 76 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co., Inc., Ala., Rotterdam, 691 bls. rags.
D. M. Hicks, by same, 57 bls. rags.
R. F. Downing & Co., Caledonian, Manchester, 49 bls. new cuttings.
Brown Bros. & Co., by same, 58 bls. new cuttings.
J. Cohen Son & Co., by same, 44 bls. new cuttings.
E. Butterworth & Co., Inc., by same, 121 bls. bagging.
A. W. Fenton, Inc., Minnekahda, London, 186 bls rags.
E. J. Keller Co., Inc., Thuringia, Hamburg, 247 bls. bagging, 240 bls. rags.
A. H. Searle, Inc., Port Hobart, London, 160 bls. rags.
G. Strauss, Bremen, Bremen, 10 bls. rags.
Brown Bros. & Co., by same, 375 bls. rags.
E. J. Keller Co., Inc., by same, 119 bls. rags, 70 bls. bagging.
A. W. Fenton, Inc., by same, 91 bls. linseys, 100 bls. dark cottons.
A. W. Fenton, Inc., Resolute, Hamburg 323 bls. rags.
E. J. Keller Co., Inc., England Maru, Leghorn, 32 bls. thread waste.
A. W. Fenton, Inc., Cabo Espartel, Marseilles, 462 bls. dark cottons.
W. Steck & Co., by same, 111 bls. rags.
Atterbury Bros., Inc., by same, 94 bls. rags.
Darmstadt, Scott & Co., by same, 121 bls. rags.
P. Berlowitz, by same, 191 bls. rags.
Albion Trading Co., by same, 113 bls. rags.
Seaboard National Bank, Cabo Espartel, Leghorn, 63 bls. rags.
Katzenstein & Keene, Schodack, Dunkirk, 360 bls. rags.
P. Berlowitz, by same, 154 bls. rags.
P. Berlowitz, Schodack, Havre, 535 bls. rags.
J. M. Jaffe, by same, 40 bls. rags.
Atterbury Bros., Inc., by same, 205 bls. bagging.
Goldman, Sachs & Co., by same, 40 bls. rags.
D. I. Murphy, by same, 64 bls. rags.
Atterbury & McKelvey, by same, 89 bls. rags.
G. Levi & Co., Columbia, Bari, 103 bls. bags.
I. Abela & Co., Columbia, Malta, 100 bls. rags.
Union National Bank, Columbia, Trieste, 255 bls. rags.
B. A. Benoni, Columbia, Venice, 120 bls. rags.
Chemical National Bank, Pr. Harding, Bremen, 68 bls. rags.
Guaranty Trust Co., by same, 256 bls. rags.
A. W. Fenton, Inc., by same, 60 bls. rags.
W. Schall & Co., Mercier, Antwerp, 66 bls. rags.
Mechanics & Metals National Bank, Zeeland, Antwerp, 180 bls. flax waste.
Chemical National Bank, N. Amsterdam, Rotterdam, 84 bls. rags.
E. J. Keller Co., Inc., by same, 63 bls. rags, 144 bls. bagging, 121 bls. paper stock.
P. Berlowitz, by same, 112 bls. rags.
The Stone Bros. Co., Inc., by same, 7 bls. rags.
E. J. Keller Co., Inc., Volendam, Rotterdam, 248 bls. rags.

OLD ROPE

Brown Bros. & Co., Bremen, Bremen, 38 coils.
Brown Bros. & Co., Bergensfjord, Oslo, 42 coils.
Brown Bros. & Co., N. Amsterdam, Rotterdam, 56 coils.
W. Schall & Co., Britannia, Barcelona, 26 coils.
New York Trust Co., Pr. Harding, Bremen, 16 coils, 34 bls.

MANILA ROPE

Ellermans' Wilson Line, Minnekahda, London, 30 coils.

CASEIN

Brown Bros. & Co., Western World, Buenos Aires, 284 bags.
Irving Bank Columbia Trust Co., Halizones, Buenos Aires, 417 bags.
T. M. Duche & Sons, by same, 417 bags.

(*Continued on page 64*)

PLUGS

for Papermakers

any shape or style. The largest plug factory in this country. Prompt delivery—low prices—shipped to any place in the United States or Canada. Also manufacturers of all kinds of turned wood specialties.

Write for prices and particulars

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EMBOSSING, COATING, PRINTING

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STEAM PLANTS

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REPORTS
ESTIMATES OF COST
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F. W. Roberts Manufacturing Company

All Products Guaranteed to Suit You

STEEL SHELL BURRS
YELLOW JACKET SHOWER

Read the "ROBERTS IDEA"

STEBBINS ENGINEERING & MFG. CO.

Watertown, New York

Digester, Acid Proof and other Guaranteed Linings
Chemical Pulp Mill Engineers

UNION TALC COMPANY

Finest Grades of Agalite

147 Nassau Street — New York

Imports of Paper and Paper Stock

(*Continued from page 62*)

CHINA CLAY

English China Clays Sales Corp., China Maru, Fowey, 1,955 tons, 9 cwt.

Moore & Munger, by same, 1,336 tons, 12 cwt., 50 cks., 25 tons.

WOOD PULP

Scandinavian Pulp Agency, Inc., West Gotomska, Sundsvall, 750 bls. sulphate, 150 tons.

Jonhaneson, Wales & Sparre, Inc., West Gotomska, Hernosand, 5,730 bls., sulphate, 955 tons.

International Accep. Bank, Ala., Rotterdam, 729 bls. wood pulp, 159 tons.

Bulkley, Dunton & Co., Louisiana, Sundsvall, 1,250 bls. sulphite, 1,250 bls. sulphate.

Scandinavian Pulp Agency, Inc., Baltic, Skutskar, 150 bls. wood pulp.

Ira L. Beebe & Co., Inc., Bremen, Bremen, 1,030 bls. wood pulp.

J. Anderson & Co., Columbia, Trieste, 4,204 bls. wood pulp.

E. M. Sergeant & Co., Stockholm, Gothenburg, 598 bls. dry soda pulp, 254 bls. sulphite pulp.

Castle & Overton, Inc., Pr. Harding, Bremen, 545 bls. wood pulp, 109 tons.

The Borregnard Co., Inc., Bergensfjord, Sarpsborg, 300 bls. sulphite.

Mechanics & Metals National Bank, Bergensfjord, Oslo, 500 bls. mechanical pulp.

Chemical National Bank, by same, 900 bls. sulphite.

J. F. Whitney & Co., Facto Sheet, Harbor, 19,115 bls. wood pulp, 1,911 tons.

WOOD PULP BOARDS

Parsons & Whittemore, Inc., West Gotomska, Raumo, 196 bls., 29 tons.

Lagerloef Trading Co., Baltic, Skutskar, 226 bls.

WOODFLOUR

B. L. Soberski, Bergensfjord, Ferdrikstad, 2,775 bags.

A. Kramer & Co., Inc., N. Amsterdam, Rotterdam, 500 bags.

Pulpore Can & Box Co., Inc., Baltic, Skutskar, 25 bags.

BOSTON IMPORTS

WEEK ENDING JULY 25, 1925

Katzenstein & Keene, Inc., Winona Co., Glasgow, 50 bls. paper stock.

Brown Bros. & Co., by same, 150 bls. paper stock.

American Express Co., by same, 20 bls. paper stock.

Ashuelot Paper Co., by same, 100 bls. bagging.

G. M. Graves Co., by same, 184 bls. paper stock.

Brown Bros. & Co., Winifredian, Liverpool, 121 coils old rope, 88 bls. old rope.

J. B. Moors & Co., by same, 913 bags. hide cuttings, 77 bls. rags.

J. T. Lodge & Co., by same, 90 bls. rags.

Payne & Stillman, by same, 16 bls. rags.

Second National Bank, by same, 28 bls. thread waste.

State Street National Bank, by same, 18 bls. rags.

First National Bank of Boston, by same, 20 bls. rags.

National Bank of Commerce, Barbadian, Antwerp, 419 bls. rags.

Brown Bros. & Co., Barbadian, London, 356 coils, 12 bls. old rope.

Crocker, Burbank Co., by same, 292 bls. waste paper.

J. B. Moors & Co., Caledonian, Manchester, 135 bags hide cuttings.

Atterbury Bros., Inc., Lalande, Buenos Aires, 417 bags casein.

Kalbfleisch Corp., by same, 834 bags casein.

Johaneson, Wales & Sparre, Inc., West Gotomska, Hernosand, 3,000 bls. sulphate pulp, 500 tons.

Pagel, Horton & Co., Inc., West Gotomska, Domsjo, 3,000 bls. sulphate pulp, 500 tons.

J. B. Harris Co., Inc., West Gotomska, Raumo, 9 bls. wood pulp boards.

BALTIMORE IMPORTS

WEEK ENDING JULY 25, 1925

Buck Kiaer & Co., Inc., Tampa, Norway, 200 bls. wood pulp.

Bank of the Manhattan Co., by same, 1,500 bls. wood pulp.

Chemical National Bank, by same, 600 bls. wood pulp.

Bulkley, Dunton & Co., Louisiana, Sundsvall, 500 bls. sulphite, 3,225 bls. sulphate.

Johaneson, Wales & Sparre, Inc., by same, 510 bls. sulphite.

Equitable Trust Co., by same, 3,000 bls. sulphite.

National City Bank, by same, 6,500 bls. sulphite.

Price & Pierce, Ltd., by same, 900 bls. sulphite.

Scandinavian Pulp Agency, Inc., Baltic, Skutskar, 4,272 bls. wood pulp.

Castle & Overton, Inc., Legie, Germany, 1,925 bls. wood pulp.

Castle & Overton, Inc., ——, Germany, 975 bls. wood pulp.

Lagerloef Trading Co., Baltic, Kotka, 671 bls. wood pulp boards.

NEW ORLEANS IMPORTS

WEEK ENDING JULY 25, 1925.

Castle & Overton, Inc., Carplaka, Antwerp, 114 bls. rags.

Castle & Overton, Inc., Abercross, England, 146 bls. rags.

PORTLAND IMPORTS

WEEK ENDING JULY 25, 1925.

Bulkley, Dunton & Co., West Gotomska, Hernosand, 3,150 bls. sulphite, 525 tons.

Scandinavian Pulp Agency, Inc., by same, Sundsvall, 2,500 bls. sulphite, 500 tons.

National City Bank, by same, Gotomska, 1,000 bls. sulphite, 200 tons.

PHILADELPHIA IMPORTS

WEEK ENDING JULY 25, 1925

Neidlich Process Co., Baltic, Kotka, 45 cs. tissue paper.

Paper House of Penna., by same, 125 cs. printing paper, 142 rolls news print.

Brown Bros. & Co., Quaker City, London, 299 bls. paper stock.

E. J. Keller Co., Inc., Breedyk, Amsterdam, 161 bls. rags.

The Stons Bros. Co., Inc., by same, Rotterdam, 245 bls. rags.

G. Borgfeldt & Co., by same, 198 bls. rags.

Philadelphia National Bank, by same, 421 bls. rags.

E. Butterworth & Co., Inc., by same, 89 bls. rags.

Second National Bank of Boston, by same, 167 bls. rags.

Brown Bros. & Co., by same, 45 bls. rags.

Anglo South American Trust Co., by same, 86 bls. rags.

Guaranty Trust Co., by same, 92 bls. rags.

Philadelphia National Bank, Columbia, Venice, 37 bls. white cottons.

B. A. Benoni, by same, 134 bls. white cottons.

E. J. Keller Co., Inc., Floridian, Kobe, 450 bls. rags.

J. G. Kitchen, Winifredian, Liverpool, 4 bls. rags.

F. Wittaker & Co., by same, 4 bls. rags.

C. J. Webb & Sons, by same, 20 bls. rags.

J. L. Vandiver, by same, 165 coils old rope.

Brown Bros. & Co., by same, 12 bls. rags.

Anglo South American Trust Co., Winifredian, Manchester, 57 bls. new cuttings.

True & McClelland, by same, 23 bls. cotton waste.

New England Waste Co., by same, 18 bls. cotton waste.

Mechanics & Metals National Bank, by same, 91 bls. rags.

Castle & Overton, Inc., Hornfels, Bremen, 292 bls. rags.

Castle & Overton, Inc., Cabo Torres, Italy, 266 bls. rags.

Castle & Overton, Inc., West Eldara, Antwerp, 133 bls. rags.

Castle & Overton, Inc., Carnia, Italy, 1,488 bls. rags.

Castle & Overton, Inc., Legie, Hamburg, 275 bls. wood pulp.

Castle & Overton, Inc., ————, Germany, 550 bls. wood pulp.

Scandinavian Pulp Agency, Inc., Baltic, Skutskar, 750 bls. wood pulp.

Bids and Awards For Government Paper

WASHINGTON, D. C., July 29, 1925.—The Government Printing Office has received the following bids for 9,450 pounds of 24 x 38-31½, No. 13 white bond paper; R. P. Andrews Paper Company, at 21 cents per pound; Barton, Duer & Koch Paper Company, 18.45 cents; American Writing Paper Company, 19.79 cents; Old Dominion Paper Company, 20.99 cents; Aetna Paper Company, 20.20 cents; Reese & Reese, 20.89 cents; and Dobler & Mudge, 20.5 cents.

The Government Printing Office has received the following bids for 40,000 pounds boxboard 23½ x 34, No. 35; The Republic Paperboard Company, $51.996 per ton; R. A. Cauthorne Paper Company, Inc., $47.40 per ton; Whitaker Paper Company, $52.30 per ton; Barton, Duer & Koch Paper Company, $51.92; Lindemeyr & Harker, $51.39; Dobler & Mudge, $52.50, (plus $1.25 for lining).

The Government Printing Office has announced the following paper awards.

The Garrett-Buchanan Company will furnish 2,210 pounds, (500 reams) of 8 x 10½ pink mimeograph paper at 11 cents per pound, bids for which were received on July 6.

The Bryant Paper Company will furnish 5,000 pounds of yellow manifold paper in 17 inch rolls at 14.75 cents per pound, bids for which were received on July 1.

Lindemeyr & Harker will furnish 108,000 pounds, 1600 reams, of various sizes, white rag MF book paper at 10.43 cents per pound, bids for which were received on June 29.

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STANDARD IN SODA SINCE 1881

Quality and service guaranteed by the Largest Source of Supply

Soda Ash

Caustic Soda

Over 75 stock distributing points assure prompt shipment with minimum transportation charges.

The Solvay Process Co.

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For wrapping all moist and greasy foodstuffs.

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For tight-sealing cartons and wrapping dry foods.

Bond and Ledger Papers

All standard sizes, weights and colors.

Handy Household Papers in Rolls

Ask and ye shall receive full information.

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Where *Quality* is the watchword.

INTERNATIONAL ACCEPTANCE BANK, INC.

Condensed Statement, June 30, 1925

RESOURCES

Stockholders' Uncalled Liability	$5,000,000.00	
Cash and Due From Banks		$ 4,774,492.07
Bankers' Acceptances and Call Loans Secured by Acceptances		8,071,069.33
U. S. Government Securities		12,052,874.08
Other Securities and Advances		20,034,173.48
Customers' Liability a/c Acceptances and Letters of Credit		41,375,335.24
		$86,307,944.20

LIABILITIES

Subscribed Capital and Surplus	$15,250,000.00	
Capital and Surplus Paid In		$10,250,000.00
Undivided Profits		3,125,733.71
Due to Banks and Customers		30,119,259.63
Acceptances and Letters of Credit Outstanding		42,536,301.38
Reserve for Taxes, etc.		276,649.48
		$86,307,944.20

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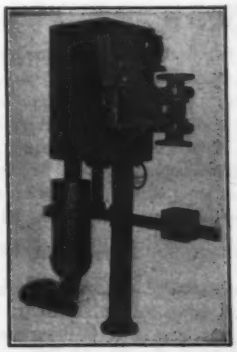
CERTAINLY!



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ALL THE TIME!

More than 400 in use in the paper and pulp mills of North America and Europe.

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TRIMBEY MACHINE WORKS

Glens Falls, N. Y.

"Made in Canada"? Yes.

New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
Wednesday, July 22, 1925.

July is passing out with a very creditable showing as far as the paper market is concerned. The month has successfully withstood the brunt of hot-weather depression and, while everything has naturally slackened its momentum, the general business has by no means succumbed to the degree of depression which was typified by the paper business in July, 1924. There are few really bad spots in the market today and in several lines there is greater animation than many had looked for. The paper men are greatly encouraged by the conditions which have prevailed during July for there is now but one more month to bridge before September will be here and a general revival of business will set in. Summer specialties continue to make rapid strides. The summer has been a remarkable one for all outdoor enterprises for the storms which we have had have been of short duration almost without exception and have not marred an entire day. Concessionaires at all the shore resorts have been doing a land-office business and orders for paper napkins, ice cream containers, paper drinking cups, etc., have been large and consistent. Prices are not in a changeable mood at this time and there will probably be no great price upset before September at any rate. Then schedules will be revised and the condition of the market seems to indicate that there will be a strong upward tendency in many lines. Seldom has the outlook for early Fall business been more encouraging and preparations are now being made by the paper men to handle a greater avalanche of business than has been handled in months. Holiday business is expected to be particularly good and so the paper men have much to look forward to with keen interest and little to fear from the near future.

News print consumption for July has been fairly well maintained and has not fallen off to the extent that it has in many years. In the New York field advertisers have been especially vigorous in their summer campaign for business and energetic circulation campaigns by the newspapers have kept their circulations close to the normal level in spite of the "away from home" season. September 1 will see a spirited demand for news print although it is expected that buying may be curtailed somewhat toward the close of the year or until a general announcement is made as to the new price which will rule in 1926.

Fine papers are not doing any too well and one reason assigned for this is a very general falling off in direct mail advertising. The increase in postal rates has had a tendency to curb the activities of this form of advertising. A question that is now interesting the trade is just how permanent the effect of the increase will be and how long direct by mail advertising will suffer as a consequence, effecting fine paper demand indirectly.

Mechanical Pulp

The mechanical pulp market is steady and the demand is very satisfactory for this period of the year. Some consumers are buying on an unusually broad scale. Stock is limited and producers are well sold up. They are conserving stock at the present time and are sending but a small portion of their product into the open market. This is, of course, a preparedness step to safeguard the producers against adverse working conditions which are only too apt to occur at this time of the year. The outlook for fall demand for groundwood is especially rosy at this time.

Chemical Pulp

There is no great activity in the chemical pulp market. The mills are doing litle buying and orders are strictly confined to immediate needs. Producers are readily disposing of most of their stock, contract withdrawals being taken with greater regularity than was the case a short time ago. Prices are being maintained.

Old Rope and Bagging

The bagging demand has fallen off considerably but the prices are holding up. Old rope is in fair demand and the prices are holding at the level of the past few weeks.

Rags

Rags are being taken now in only limited quantities and the market has passed into an inactive state. Roofing stock which has been the center of several flurries are steadier now than they have been for some time and the call is shrinking as it is apt to do before the close of the building season.

Waste Paper

Paper stock is in superficial demand and business is slow and characteristic of July. Consumers are only buying as they are forced to buy and prices remain fixed where they have been since quotations underwent the last marked change. It is said, however, that business is so slack that concessions are procurable almost anywhere where a consumer appears with a worthwhile order.

Twine

Twine has little or nothing new to offer. It is in a precariously weak condition, orders being few and only for limited quantities. It is the repetition of the business conditions of July, 1924.

I. P. Co. Makes Improvements at Sherman Island

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., July 27, 1925.—The International Paper Company is making improvements at the Sherman Island power plant. Expansion joints are being installed in the concrete penstocks at the power plant. Forty-five joints are to be installed, nine to each set of penstocks. During the winter months the original joints in the penstocks spread to such an extent that small leaks were caused. The only way in which the leaks could be overcome and the joints made safe was to install the expansion joints which are made of steel placed on the inside of the tubes.

New Superintendent of Babbitt-Kelley Co.

[FROM OUR REGULAR CORRESPONDENT]

BELLOWS FALLS, Vt., July 27, 1925.—James Sims, formerly superintendent of the plant of the Moorse & Thompson Paper Company is now superintendent of the mill of the Babbitt-Kelley Company Inc. at this place.

"Ask Your Neighbor What He Thinks of Them"

75 JENSSEN

Two-Tower Acid Systems now in operation or building.

Jenssen Spray Type Cooler
Bullard Gas Washer
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Kamyr Feltless Machines
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Mills at
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FITCHBURG - MASSACHUSETTS

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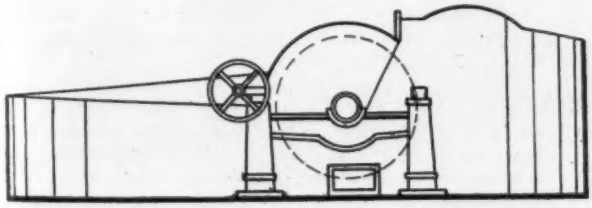

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BETTER PAPER AT LOWER COST
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Buildings, improvements, Paper Machines rebuilt, New Grades of Paper Made, Power Plants, complete mills, old mills re-designed for larger profits.

Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
Wednesday, July 29, 1925.

The chemical market is drifting along consistently with the logical July trend. Contract deliveries are good but spot inquiries are not as numerous as most of the manufacturers would like to see them. Business, however, has been a considerable imbrovement over the business done in July 1924 and that is leaving a pleasant taste in the mouths of the chemical men. Everything points to a good Fall business and that is what everyone is looking forward to at this time for September is not so far away after all. The Autumn should see unusual animation in salt cake at any rate. The pulp condition at the present time seems to indicate this for with Swedish kraft standing where it is and a general strengthening tendency on the part of foreign pulp it is natural to believe that salt cake will be in energetic demand. The July demand for bleach is a feature of the market for it has taken the manufacturers by surprise and it is said that buyers are having some difficulty in getting their orders filled as speedily as they desire in some instances. The reason for this is that June shipments were slow and the manufacturers, sizing up the situation, figured on a similar situation in July. They consequently began to curtail production instead of letting stock pile up as has been the case in past years. July business, however, has not followed the snail-like pace set by June. Orders have been coming in much brisker than was figured on and this has caught the manufacturers more or less unprepared. The result has been that they have had to revise their working schedules and are filling their orders as promptly as possible but in some instances, it is stated, shipments are being made a week or ten days later than the buyers desired. There have been no changes in quotations, prices holding up and showing no tendency to drop below their present level. Everything considered August 1 will find the market with the worst month of the year back of it and without anything very serious having occurred to disturb it. Prices have not been shattered and concession making has not been promulgated to any considerable extent. August should lay a satisfactory ground-work for brisk Fall business unless all indications are misleading.

BLANC FIXE.—Blanc Fixe is running along just about as it has been for the past two weeks, the demand not being particularly good nor particularly bad. While the spirit of excessive caution governs all buying there is no general concession making and prices are only being shaded in rare instances where there is some particular reason for it. The pulp is bringing from $60 to $70 a ton and the powder from $75 to $90 a ton.

BLEACHING POWDER.—Bleaching powder, as already stated, is moving so far ahead of the June demand that the manufacturers were some of them taken by surprise. Everyone is taking their contract quotas this month whereas last month they were cutting down on them. Manufacturers overplayed their hand when they figured on July being a repetition of June. The price holds at 1.90 cents a pound.

CAUSTIC SODA.—Caustic soda is lagging along with little demand except on a contract basis. There is sufficient of that to keep stock moving fairly well but a little more spot buying would be welcomed. There has been no change in price which is still from 3.10 to 3.15 cents a pound.

CASEIN.—Casein is, of course, running much slower than it was a while ago but it is still doing satisfactorily for July. If nothing happens, the advent of September will find it resuming its advantageous position from which the hot weather dislodged it. Although the price is being shaded on occasions it is still holding fairly well to the quotation of 12½ cents a pound.

CHINA CLAY.—China clay demand is limited at this time to such business as is imperative but, like casein, this is only an interruption and the Fall season is expected to bring it back to the proud position it occupied before the summer slump set in. The imported grades are quoted at from $16 to $20 a ton and the domestic grades at from $12 to $15 a ton.

CHLORINE.—Chlorine moves very slowly these days but those who have looked for concessions say that it is utterly impossible to obtain any. The quotation is from $4.50 to $7.00 a pound in tanks.

ROSIN.—Not much activity is found in the rosin market just now. July business is far below the demand for rosin up to June 1 and here again it is expected that September will work a transformation and place rosin again in the speedy running class. The naval stores centers are now quoting it at from $6.35 to $6.55.

SALT CAKE.—Salt cake is doing a trifle better than it was doing last week and, as has already been stated, there is every reason to look for an animated demand for it in a few weeks. The price holds at from $16 to $17 a ton.

SODA ASH.—Contract business is about all that is coming through for soda ash and this is just about sufficient to keep the stock moving in a fairly satisfactory manner. The price is 1.38 cents a pound on a flat basis at the works.

SULPHATE OF ALUMINA.—Sulphate of alumina is doing a fair amount of contract business but the spot buying is not what it should be and probably will not be for another month. It is doing very well for July, however. The quotation on the commercial grades is from 1.40 to 1.45 cents a pound at the Eastern works while the iron free is selling at from 2.10 to 2.25 cents a pound.

SULPHUR.—The recent rise in price of sulphur has not materially affected the sulphur market. Contract quotas are being taken out in a satisfactory manner. The price is from $19 to $20 a ton.

TALC.—Talc continues slow, better than it was in July last year but still very inactive. It is still quoted at from $17 to $18 a ton.

Wages in Paper Industry of Czechoslovakia

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 29, 1925.—In general wages paid in the paper and pulp industry of Czechoslovakia have been maintained at relatively the same levels as those current in the other industries of the country according to Commercial Attache Hodgson at Prague in a report to the Paper Division of the Department of Commerce. Discussing this question in detail Mr. Hodgson continues:

The current wage scales effective in the paper and pulp industry are based on union agreements, and are subject to considerable variation according to the location of the mill, depending upon whether it is situated in or near a large city, or whether it is in a country district where living costs are lower.

The following represents the average weekly wages U. S. currency paid in the largest paper and pulp mills throughout the country for a 48-hour week. Smaller concerns which are usually located near the source of supply, in general, pay smaller salaries, in some cases the difference amounting to as much as 25 per cent under those quoted:

Paper machine men, $6.11—$7.67; Beater men, $4.83—$6.25; Calender men, $4.98—$6.54; Pulp cooks, $4.83—$6.68; Men helpers, $4.26—$5.33; Girl helpers, $3.13—$3.58.

In general, no bonuses are paid to paper and pulp mill hands by the employers. There is, however, compulsory sick and accident insurance, the premiums of which are paid by assessing the employees for fifty per cent of the amount, the balance being paid by the employers. In addition, under a law dated October 9, 1924, which becomes effective on July 1, 1926, there will be added to the sick and accident insurance policies a provision providing for old age bonuses and insurance in case of disability.

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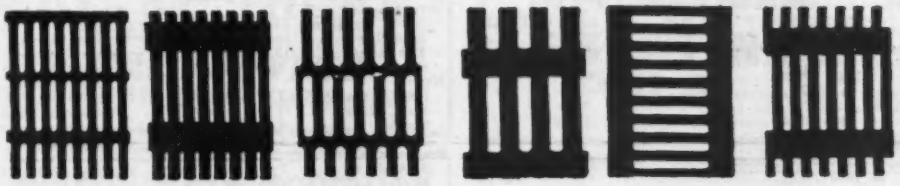

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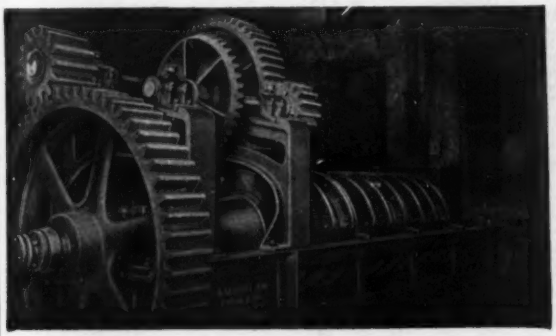

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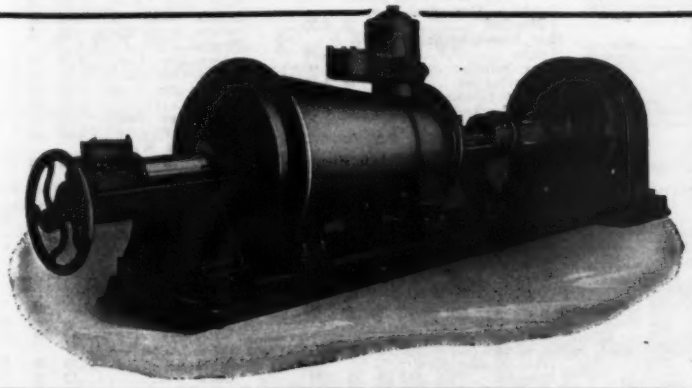

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Market Quotations

Quoted by Hepburn & Co., No. 74 Broadway, N. Y. City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	OFFERED
Abitibi Power and Paper, Gen. 6s 1940	101	103*
Advance Bag and Paper, 7s 1943	98	100*
Bastrop Pulp and Paper, 7½s 1932	104	108*
Brompton Pulp and Paper, 6s 1927	94	96
Beaver Board, 8s 1933	92	94
Bedford Pulp and Paper, 6½s 1942	98	...
Berkshire Hills Paper Co., 8s 1941	...	80
Beaver Board, N. Y. Curb, 8s 1933	93	95
Beaver Products Corp., 7½s 1942	104	106
Belgo Canadian Paper, 6s 1943	100	101
Brown Paper Co., 8s 1931	102	...
Berlin Mills, 5s 1931	98	...
Bryant Paper Co., 6s 1942	99	102*
Brown Company Serial, 6s 1925-43	97	100
Central Paper, 6½s 1925-42	91	94
Cape Breton Pulp and Paper, 6s 1932	100	...
Carthage Sulphite Pulp and Paper, 8s 1941	40	50
Champion Coated Paper Co., 6s 1924-34	...	102
Champion Fibre Co. Notes, 8s 1930	101	...
Cherry River Paper, 5s 1929	97	100*
Donnaconna Paper Co., Ltd., 6s 1940	99	101
Eddy Paper, 7½s 1931	97	...
Eagle Paper, 6½s 1932	96	100
Escanaba Paper, 6s 1933	87	95*
Fox River Paper, 7s 1931	100	...
Fort Orange Paper Co, 7s 1942	95	99
Eddy Paper Co., 7½s 1931	95	...
Gilbert Paper Co., 7s 1927	96	...
Gilbert Paper Co., 6½s 1923-29	101	102*
Hammermill Paper Co., 6s 1930-39	99	...
Hercule Corp'n, 8s 1936	99	102
Hummell, Ross Fibre Corp., 7s 1925	90	...
Jessup & Moore Paper Co., 6s 1939	90	97
Kenmore Pulp and Paper Co., 6s 1937	90	...
Lake Superior Pulp and Paper, 6s 1941	105	...
Mattagami Pulp and Paper, 6s 1937	90	...
Marinette & Menominee, 7½s 1936	104	...
National Paper and Type, 6s 1947	96	99*
Oswego Falls Corp., 8s 1942	102	105
Orono Pulp and Paper, 5s 1941	93	96*
Orono Pulp and Paper, 6s 1943	97	100*
Oxford Paper Co., 6s 1947	101	...
Paterson Parchment Paper, 5½s 1927-28	98	100
Paterson Parchment, 6s 1938	98	100
Parker, Young Co., 6½s 1944	92	96
Price Bros. & Co., Ltd., 6s 1943	100	102
Provincial Paper Mills, Ltd., 6s 1940	97	...
Riordon Co., Series A, 8s 1940	115	118
Riordan Paper, 6s 1924	95	...
Riordan Pulp and Paper, Ltd., 6s, 1929	33	35
River Raisin Paper, 8s 1936	104	106
St. Maurice Paper Co., Ltd., 5½s, 1929	98½	99¾
St. Regis Paper, 6½s, 1929-35	97	102
Smith (Howard) Paper Mills, 7s 1941	98	100
Smith (Howard) Paper Mills, 6s 1934	98	...
St. Croix Paper, 5s 1923-37	95	...
Stevens & Thomson Paper, 6s 1942	88	92
Spanish River Pulp and Paper, 6s 1931	105	108
Spanish River Pulp and Paper, Gen 8s 1941	106	109
Ticonderoga Pulp and Paper Co., 6s, 1940	91	95
Ticonderoga Pulp & Paper 1-5, 1930	88	93
S. D. Warren Company, 6s, 1945	97	100
Whittaker Paper, 1st 7s 1942	96	98
Watab Paper Co., 6½s 1942	100	104
Waterway Paper Products, 7s 1924-27	95	100
Wayagamack Pulp and Paper, Ltd., 6s 1951	87	90

STOCKS	BID	ASKED
Abitibi Power and Paper, Com	65	68
Abitibi Power and Paper, Pfd	100	...
Advance Bag and Paper, Com	8	12*
Advance Bag and Paper, Pfd	77	...
Beaver Board, Com	4	6
Beaver Board, Pfd	32	35
Bryant Paper, Cap	12	...
Bryant Paper, Pfd	9	...
Brompton Pulp and Paper, Cap	18	23
Chicago Mill & Lumber Co., Com	63	...
Chicago Mill & Lumber Co., Pfd	98	104
Crown Williamette, Com	93	98*
Crown Williamette, 7% A, Pfd	98	SW
Donnaconna Paper, Pfd	95	100
Great Northern Paper, Cap	260	270
Jessup & Moore Paper, pfd	73	77
International Paper Co., Com	68	69
International Paper Co., Pfd. 6%	78	80
Mengel Company, Com	64	68
Mengel Company, Pfd	83	93
Oxford Papers, Com	93	97
Oxford Paper Co., Pfd	98	...
Provincial Paper Co., Com	94	98
Provincial Paper Co., Pfd	99	...
Price Brothers, Cap	39	40
St. Croix Paper	185	215
St. Maurice Paper Co., Cap	76	76
St. Regis Paper Co., Cap	54	56
Spanish River Pulp and Paper, Com	104	105
Spanish River Pulp and Paper, Pfd	115	117
Ticonderoga Pulp and Paper, Cap	145	...
West Virginia Pulp and Paper. Cap	44	47
West Virginia Pulp and Paper, Pfd	95	...
Whittaker Paper, Com	54	...
Whittaker Paper, Pfd	20	...

* Nominal.

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub Sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.50	@ 3.90
Rolls, transit	3.75	@ 4.25
Sheets	4.00	@ 4.25
Side Runs	3.25	@ 4.00
Book, Cased—		
S. & S. C.	7.00	@ 9.75
M. F.	6.25	@ 8.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream		
White No. 1	.70	@ .90
Colored	1.00	@ 2.00
White No. 2	.65	@ .75
Anti-Tarnish	1.15	@ 2.25
Kraft	.85	@ .95
Manila	.70	@ .80
Kraft—		
No. 1 Domestic	5.50	@ 6.25
No. 2 Domestic	4.25	@ 4.50
Imported	5.50	@ 5.75
Manila—		
No. 1 Jute	9.25	@ 9.50
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.50	@ 4.00
Fibre Papers—		
No. 1 Fibre	4.50	@ 5.00
No. 2 Fibre	4.25	@ 4.75
Common Bogus	2.50	@ 2.75
S. Screening	3.00	@ 3.50
Card Middler	4.00	@ 5.00
Boards—per ton—		
News	45.00	@47.50
Straw	57.00	@60.00
Chip	42.00	@45.00
Binders' Boards	72.50	@77.50
Sgl. Mla. Ll. Chip	60.00	@62.50
Wood Pulp	70.00	@75.00
Container	62.50	@67.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.75	@ 2.00
Ground Wood—		
Screenings	20.00	@25.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported	33.00	@37.00

(F. o. b. Mill)

No. 1 Domestic	28.00	@32.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	4.00	@ 4.50
Easy Bleaching	2.90	@ 3.25
No. 1 strong unbleached	2.75	@ 3.25
No. 2 strong unbleached	2.45	@ 2.75
No. 1 Kraft	2.95	@ 3.20
Sulphate—		
Bleached	3.75	@ 3.95

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.75	@ 4.50
Easy Bleaching Sulphite	2.90	@ 3.25
News Sulphite	2.55	@ 2.80
Mitscherlich	3.25	@ 3.75
Kraft (Domestic)	2.75	@ 3.25
Soda Bleached	4.00	@ 4.25

Domestic Rags

New Rags

Prices to Mill, f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	14.50	@15.25
New White, No. 2	8.00	@10.00
Silesias No. 1	10.50	@11.50
New Unbleached	14.00	@15.00
Washabits	6.50	@ 9.25
Fancy	9.75	@10.25
Blue Overall	10.25	@11.25
New Blue Prints	7.50	@ 8.50
New Soft Blacks	5.75	@ 6.20
Mixed Khaki Cuttings	5.75	@ 6.25
Pink Corset Cuttings	10.50	@11.00
Pink Muslin	10.25	@10.75
New Light Seconds	3.25	@ 3.50
O. D. Khaki Cuttings	6.25	@ 7.25
Men's Corduroy	6.25	@ 6.75
New Mixed Blacks	4.00	@ 4.50

Old Rags

White, No. 1—		
Repacked	6.50	@ 7.50
Miscellaneous	6.50	@ 7.00
White, No. 2—		
Repacked	4.25	@ 4.50
Miscellaneous	3.75	@ 4.25
St. Soiled, White	3.00	@ 3.50
Thirds and Blues—		
Repacked	4.00	@ 4.25
Miscellaneous	3.25	@ 3.50
Black Stockings	4.00	@ 4.50
Roofing Rags—		
Cloth Strippings	2.40	@ 2.50
No. 1	2.30	@ 2.40
No. 2	2.30	@ 2.40
No. 3	2.00	@ 2.25
No. 4	2.20	@ 2.30
No. 5A	1.80	@ 1.50

Foreign Rags

New Light Silesias	9.50	@10.50
Light Flannelettes	10.50	@11.50
Unbl'ched Cottons	14.00	@15.00
New White Cuttings	14.00	@15.00
New Light Oxfords	10.00	@11.00
New Light Prints	9.00	@10.00
New Mixed Cuttings	4.25	@ 4.50
New Dark Cuttings	4.00	@ 4.25
No. 1 White Linens	10.00	@11.00
No. 2 White Linens	7.25	@ 8.25
No. 3 White Linens	6.25	@ 6.75
No. 4 White Linens	4.50	@ 5.50
Old Extra Light Prints	4.25	@ 4.75
Ord. Light Prints	3.75	@ 425
Med. Light Prints	3.75	@ 4.25
Dutch Blue Cottons	4.00	@ 4.50
Ger. Blue Cottons	4.00	@ 4.25
Ger. Blue Linens	425	@ 4.75
Checks and Blues	3.25	@ 3.50
Linsay Garments	2.45	@ 2.50
Dark Cottons	2.35	@ 2.45
Shoppery	2.25	@ 2.35
French Blues	4.00	@ 4.50

Bagging

Prices to Mill F. o. b. N. Y.

Gunny No. 1—		
Foreign	3.15	@ 3.25
Domestic	3.15	@ 3.25
Wool Tares, light	2.50	@ 2.60
Wool, Tares, heavy	2.60	@ 2.70
Bright, Bagging	2.55	@ 2.65
Mixed Bagging	2.30	@ 2.40
Sound Bagging	2.10	@ 2.20
Roofing Bagging	1.85	@ 2.00
Manila Rope—		
Foreign	6.25	@ 6.75
Domestic	6.75	@ 7.25
New Bu. Cut	3.60	@ 3.85
Hessian Jute Threads—		
Foreign	4.00	@ 4.25
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.40	@ 3.60
Hard, White, No. 2	3.15	@ 3.40
Soft, White, No. 1	2.70	@ 2.80
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag	1.25	@ 1.40
Solid Flat Book	1.40	@ 1.50
Crumpled No. 1	1.25	@ 1.35
Solid Book Ledger	1.70	@ 1.80
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.65	@ .75
Manilas—		
New Env. Cut	2.25	@ 2.40
New Cut. No. 1	1.75	@ 2.00
Extra No. 1 old	1.40	@ 1.50
Print	1.20	@ 1.30
Container Board	.70	@ .90
Bogus Wrapper	1.00	@ 1.10
Old Krafts Machine compressed bales	2.00	@ 2.10
News—		
No. 1 White News	1.85	@ 2.00
Strictly Overissue	1.05	@ 1.15
Strictly Folded	.75	@ .85
No. 1 Mixed Paper	.55	@ .65
Common Paper	.35	@ .45

Twines

Cotton—(F. o. b. Mill)—		
No. 1	.42	@ .45
No. 2	.41	@ .43
No. 3	.40	@ .48
India, No. 6 basis—		
Light	.19	@ .20
Dark	.17	@ .19
B. C., 18 basis	.39	@ .41
A. B. Italian, 18 Basis	.56	@ .62

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Finished Jute—			
Dark, 18 basis	.30	@	.31
Light, 18 basis	.28	@	.30
Jute Wrapping, 3-6 Ply—			
No. 1	.18	@	.20
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.15	@	.17
Fine Tube Yarn—			
5-ply and larger	.20	@	.28
4-ply	.21	@	.24
3-ply	.22	@	.25
Unfinished India—			
Basis	.14	@	.15
Paper Makers' Twine			
Balls	.12	@	.13
Box Twine, 2-3 ply	.14	@	.15
Jute Rope	.20	@	.40
Amer. Hemp, 6	.30	@	.32
Sisal Hay Rope—			
No. 1 Basis	.14	@	.16
No. 2 Basis	.10	@	.12
Sisal Lath Yarn—			
No. 1	.14	@	.15
No. 2	.11	@	.13
Manila Rope	.18	@	.19

CHICAGO

Paper

F. o. b. Mill			
All Rag Bond	.35	@	.40
No. 1. Rag Bon	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sul-Phite	.9	@	.12
Sulphite Bond	.7	@	10¾
Sulphite Ledger	.9	@	.12
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.9	@	.12
No. 1 M. F. Book	.5½	@	7½
No. 1 S. & S. C. Book	.6	@	7¾
Coated Book	.7½	@	10
Coated Label	.7½	@	10
News—Roll, mill	.3½	@	4¼
News—Sheets, mill	.3¾	@	4¾
No. 1 Manila	.4½	@	5½
No. 1 Fibre	.4¼	@	4¾
No. 2 Manila	.3¾	@	4¼
Butchers' Manila	3.60	@	4.00
No. 1 Kraft	.5¾	@	6¼
No. 2 Kraft (Southern Grade)	.4	@	4½
No. 2 Kraft (Northern Grade)	.4¾	@	5
Wood Tag Boards	.4	@	6
Sulphite Screenings	2.75	@	3.00
Manila Tissue, 24x36 sheet	.7	@	7½
White Tissue, 20x30 sheet	.7	@	7¾
Boards, per ton—			
(Delivered Central Territory)			
Plain Chip	45.00	@	47.50
Solid News	47.50	@	50.00
Manila Line Chip	57.50	@	60.00
Container Lined—			
(Delivered Central Territory)			
85 Test	—	@	75.00
100 Test	—	@	80.00

Old Papers

F. o. b. Chicago			
Shavings—			
No. 1 Hard White	3.15	@	3.25
White Envel. Cuttings	3.15	@	3.25
No. 1 Soft Shav.	2.85	@	2.95
No. 1 Mixed	1.45	@	1.50
No. 2 Mixed	1.15	@	1.20
Ledger and Writings	1.50	@	1.55
Solid Books	1.40	@	1.45
No. 1 Light Books	1.00	@	1.05
Blanks	1.90	@	1.95
Kraft	2.10	@	2.20
New Kraft Cuts	2.30	@	2.35
Manila Envelope Cuttings	2.40	@	2.50
Ex. No. 1 Manila	2.00	@	2.10
Print Manila	.90	@	.95
Folded News (over-issue)	.85	@	.90
Old Newspapers—			
No. 1	.70	@	.75
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.70	@	.75
No. 2	.50	@	.55
Straw Clippings	.75	@	.80
Binders' Clippings	.70	@	.75
Roofing Stock, f. o. b. Chicago, Net Cash—			
No. 1	47.00	@	52.00
No. 2	45.00	@	50.00
No. 3	43.00	@	48.00
No. 4	41.00	@	46.00

BOSTON

Paper

Ledgers—			
Sulphite	.08½	@	.18
Rag content	.18	@	.36½
All Rag	.38	@	.50
Bonds—			
Sulphite	.07½	@	.10½
Rag Content	.17	@	.45
All Rag	.36½	@	.51
Writings	.08	@	.20
Superfines	.22	@	.50
News	.04	@	.04½
Book, Super	.08	@	.10
Book, Coated	.09	@	.14
Coated Litho	.09½	@	.15
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.12
Manila, Sul. No. 1	.05	@	.05
Manila, Sul. No. 2	.03½	@	.04½
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.05½	@	.05½
Common Bogus	.03½	@	.04
Straw Board	—	@	50.00
News Board	—	@	45.00
Chip Board	—	@	42.50
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board	75.00	@	82.50
Wood Pulp Board	80.00	@	85.00
Binder Boards	75.00	@	85.00
Tarred Felts—			
Regular	61.00	@	63.00
Slaters	66.00	@	68.00
Best Tarred, 1 Ply, roll	1.50	@	1.60
Best Tarred, 2 Ply, roll	1.70	@	1.80
Best Tarred, 3 Ply, roll	2.00	@	2.10

Old Papers

Shavings—			
No. 1 Hard White	4.00	@	3.75
White Blank News	1.75	@	2.00
Manila Env. Cuttings	2.80	@	3.00
No. 2 Hard White	3.25	@	3.50
No. 1 Soft White	.04¼	@	—
No. 2 Soft White	.03¾	@	—
No. 1 Mixed	1.60	@	1.75
No. 2 Mixed	1.25	@	1.50
Solid Ledger Stock	2.00	@	1.75
Writing Paper	—	@	1.50
No. 1 Books, Heavy	1.75	@	1.50
No. 1 Books, Light	—	@	1.25
No. 1 New Manila	2.50	@	2.60
No. 1 Old Manila	1.75	@	2.00
Print Manila	1.05	@	1.20
Old Kraft	2.00	@	2.25
Overissue News	1.00	@	6.54
Old Newspapers	.70	@	5.54
No. 1 Mixed Paper	.60	@	.47½
Box Board, Chip	.60	@	.50

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	—	@	3.00
Domestic	—	@	3.25
Manila Rope	6.00	@	6.50
Mixed Rope	1.50	@	2.25
Scrap burlaps	—	@	2.25
Wool Tares, heavy	—	@	3.00
Mixed Strings	—	@	2.25
New Burlap Cuttings	—	@	3.75

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.15½	@	.15
Silesias, No. 1	.11	@	—
New Unbleached	.14¼	@	.15
Washable	.07½	@	.08
Fancy	.10½	@	—
Cottons—According to Grades—Blue—			
Blue overalls	.12½	@	—
New Black, soft	.07	@	—
Khaki Cuttings	.07	@	—
Corduroy	.04	@	.05
New Canvas	.12	@	.12½

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1	10.00	@	—
Repacked	9.50	@	—
Miscellaneous	8.50	@	—
White No. 2—			
Repacked	6.50	@	—
Miscellaneous	5.25	@	—
Thirds and Blues—			
Repacked	5.00	@	—
Miscellaneous	3.50	@	—
Roofing Stock—			
No. 1	3.00	@	—
No. 2	3.00	@	—
No. 3	2.50	@	—
No. 4	2.00	@	—

PHILADELPHIA

Paper

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.36½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila No. 2	.04	@	.04½
No. 2 Kraft	.05	@	.05½
No. 1 Kraft	.06¼	@	—
Common Bogus	.02¾	@	—
Straw Board	$6.00	@	$35.00
News Board	42.50	@	—
Chip Board	42.50	@	—
Wood Pulp Board (Carload Lots)	4.50	@	5.00
Binder Boards—			
Per ton	75.00	@	80.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	61.00	@	63.00
Slaters	66.00	@	68.00
Best Tarred, 1-ply (per roll)	1.70	@	1.80
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.10

Bagging

F. o. b. Phila.

Gunny, No. 1—			
Foreign	3.00	@	3.25
Domestic	3.00	@	3.25
Manila Rope	4.75	@	6.00
Sisal Rope	2.50	@	—
Mixed Rope	1.00	@	1.25
Scrap Burlaps	2.25	@	2.50
Wool Tares, heavy	2.00	@	2.13
Mixed Strings	1.25	@	—
No. 1, New Lt. Burlap	3.50	@	3.75
New Burlap Cuttings	3.75	@	—

Old Papers

F. o. b. Phila.

Shavings—			
No. 1 Hard White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.50	@	2.60
No. 2 Soft White	1.75	@	—
No. 1 Mixed	1.00	@	1.10
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.75	@	1.90
Writing Paper	1.60	@	1.65
No. 1 Books, heavy	1.25	@	—
No. 2 Books, light	1.00	@	—
No. 1 New Manila	1.50	@	1.75
No. 1 Old Manila	1.25	@	1.50
Container Manila	.85	@	.90
Old Kraft	2.00	@	2.10
Over issue News	.90	@	.95
Old Newspaper	.40	@	.50
No. 1 Mixed Paper	.40	@	.50
Common Paper	.30	@	.35
Straw Board, Chip	.60	@	.65
Binders Bd., Chip	.60	@	.65

Domestic Rags—New.

Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.13½	@	.14
New White, No. 2	.06½	@	—
Silesias, No. 1	.10½	@	.11
New Unbleached	.14	@	.14½
Washable	.07¾	@	.08¼
Fancy	.09½	@	.10
Cottons—according to grades—			
Blue Overall	.11	@	.11¼
New Blue	.04	@	.04¼
New Black Soft	.06	@	.06¼
New Light Seconds	.03½	@	.03¾
Khaki Cuttings	.06½	@	.07
Corduroy	.04	@	.04¼
New Canvas	.08¾	@	.09
New Black Mixed	.05	@	.05¼

Old

White, No. 1—			
Repacked	6.75	@	7.00
Miscellaneous	6.25	@	6.50
White, No. 2—			
Repacked	.05	@	.05¼
Miscellaneous	.04¼	@	.05
Thirds and Blues—			
Repacked	3.75	@	4.00
Miscellaneous	3.15	@	3.25
Black Stockings	4.25	@	4.50
Roofing Stock—			
No. 1	2.00	@	2.15
No. 2	1.90	@	2.00
No. 3	1.25	@	1.35
No. 4	1.10	@	1.20
No. 5A	1.10	@	1.15
B	1.05	@	1.10
C	1.00	@	1.05

TORONTO

Paper

(Mill Prices to Jobbers f. o. b. Mill)			
Bond—			
Sulphite	.10½	@	.12½
Light tinted	.11	@	.13¼
Dark tinted	.12½	@	.15
Ledgers (sulphite)	—	@	.13
Ledgers No. 1	.36	@	—
Ledgers No. 2	.27	@	—
Writing	.09½	@	
Writing S C	.10	@	
News f. o. b. Mills—			
Rolls (carloads)	3.50	@	—
Sheets (carloads)	—	@	4.25
Sheets (2 tons or over)	—	@	4.60
Book—			
No. 1 M. F. (carloads)	8.00	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.50	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and litho	14.50	@	—
No. 2 Coated and litho	13.50	@	—
No. 3 Coated and litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.75	@	—
White Rag	5.25	@	—
"B" Manila	5.50	@	—
No. 1 Manila	6.50	@	—
Fiber	6.50	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.15	@	—

Pulp

(F. o. b. Mill)			
Ground wood	29.00	@	30.00
Sulphite easy bleaching	60.00	@	65.00
Sulphite news grade	55.00	@	58.00
Sulphite, bleached	75.00	@	80.00
Sulphate	62.50	@	65.00

Old Waste Paper

(In carload lots, f. o. b. Toronto)			
Shavings—			
White Env. Cut	3.60	@	—
Soft White Book shavings	—	@	3.25
White Blk. News	1.70	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers	1.40	@	—
Manilas—			
New Manila Cut	—	@	1.60
Printed Manilas	1.00	@	—
Kraft	2.10	@	2.10
News and Scrap—			
Strictly Overissue	.80	@	—
Folded News	.80	@	—
No. 1 Mixed Papers	.55	@	—
Domestic Rags—			
Price to mills, f. o. b. Toronto		Per lb.	
No. 1 White shirt cuttings	.14½	@	.14¾
No. 2 White shirt cuttings	.08	@	.08½
Fancy shirt cuttings	.09¾	@	.10
No. 1 Old Whites	—	@	—
Third and blues	.05½	@	.05¾